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a quarterly journal of

PLANNING, HOUSING & PUBLIC UTILITIES

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The Challenge of Research in Agricultural Political Science

By W. ROBERT PARKS*

JUST as the field of agricultural economics has broadened out from farm management research in response to the need for analyzing the farmer's economic problems "beyond his fences," so the study of agricultural political science is developing as the institution of government is increasingly used as an instrument for solving farm problems.

Agricultural political science, broadly described, centers around the development and administrative implementation of public policies affecting agriculture—whether these policies be those of federal, state, or local governments. As it is the agricultural economist's task, on the basis of study of the economics of a given public situation, to outline alternative economically sound programs, so it is the job of the student of agricultural political science to make known the political and administrative factors involved. Effective public policy formulation involves not merely the selection of the economically "best" program, but also the proper weighing of such forces as the attitudes of pressure group organizations, party alignments in the legislative body, the present and potential administrative competence to execute the suggested program, and particularly the probable reactions of farmers who must cooperate positively in the carrying out of the program if it is to be successful. Furthermore, agricultural political science has the responsibility of assisting in the discovery of organizational arrangements and operational techniques most suitable for effectuation of policies.

As yet, research in agricultural political science and administration is relatively undeveloped. Perhaps the first job is the bringing together and integrating into a meaningful story the available published information upon the political and administrative problems which cut through considerations upon agricultural policy. But if agricultural political science is ever to approach agricultural economics in the exactness and reliability of its data, the long run job is the undertaking of specific, on the spot, field research projects.

* Iowa State College.

In marking out the variety of projects which might be undertaken in the state colleges, the research field can be broken down into at least four large problem areas: (1) The development of administratively feasible program objectives and suitable means and procedures for their implementation; (2) the farmer's role in agricultural administration; (3) the determination of the most suitable units of administration and intergovernmental relationships; and (4) the integration of federal agricultural programs.

I. *Development of Administratively Feasible Program Objectives and Suitable Means and Procedures for their Implementation*

The successful accomplishment of a sound farm program requires that its objectives, the means employed for accomplishing its objectives, and the operating devices used for applying such means to the individual farms, be such that thousands of farmers will move together in ordered fashion to carry out the public programs. Not only must the policy goals of a program be capable of being geared in with farmers' own priorities for public action, but the means selected for carrying out program objectives and the operating devices and procedures employed for putting the means into effect must be reconcilable with farmers' codes of values, concepts of reasonableness and practicality, and habits of work.

The tasks of developing the means and operating procedures for accomplishing given policy objectives through the instrumentality of thousands of farmers involves several general types of problems: (a) Through what methods is farmer compliance or cooperation in programs to be secured—education, money payments, and/or coercion? (b) Through what procedures or instrumentalities can farmer's individual activities be organized into purposeful and ordered public action? (c) With how much material service must government provide farmers in carrying out the various types of program objectives? These problems, in turn, break down into several series of more specific questions:

To what extent do the objectives of the present farm programs gear in with the priorities of farm people? Are these objectives understood by and intelligible to them? Or, have the means being used for accomplishing the objectives become distorted into ends in themselves which neither farm people nor their representatives will willingly drop from a farm program?

What are the possibilities of farmer opinion sampling for discovering and projecting farmer attitudes as a factor in making both legislative and administrative policy decisions on objectives and means which will be most willingly accepted and carried through by farmers? For example, could the possibilities of getting great farmer shifts in major crop patterns be measured? Or, to what extent can farm people engaged in subsistence or submarginal farming be persuaded by means, which do not follow those of dictatorship, to find other employment? Is the feeling among farmers that "there is nothing to worry about, because the government will bail us out" so entrenched and widespread that it will tend to sabotage a farm program calling for substantial changes in farm operations? What are the possibilities of the politically activated groups in the farm population accepting a reorientation of the farm program towards underwriting a minimum level of living for every farm family (which has no other reasonable opportunities for gaining a livelihood) rather than a farm program whose chief characteristic is guaranteeing high stable returns to the business of farming? How would a cross-section of the rural population react to a government program which underwrote minimum levels of rural welfare by bringing into the agricultural economy those economic security guarantees already prevailing in the industrial sector, such as unemployment and old-age insurance, child labor protection, and minimum wages and hours standards? Could farmer opinion sampling discover such usable information in the determi-

nation of legislative policy as: To what extent do farm organizations mold or control their members' opinions? Do they hold the variety of sectional, commodity and class interests together in any commonly accepted policies? In short, for how many farmers do they speak? To what extent are farmers aware of their congressional representatives legislative activities? Is this awareness correlated with economic class, educational level, commodity produced?

What are the varying potentialities of education, money subsidization, coercion, or combinations of the three for effectuating public agricultural objectives?

How effectively can compliance in various programs be secured through money subsidization? Is the first priority of farm people the guaranteeing of the present high returns in the business of farming? To what degree are farmers willing to relinquish their "freedom" to direct their farming operations for the securing of high stable income or other types of public agricultural services? Will they be willing to accept the amount of production and marketing control which may be necessary for such public subsidization long to continue? To what extent has compliance with production and marketing controls which have already been in force been obtained? To what extent must education and coercion be geared in with money subsidization in obtaining farmer compliance?

If it could be objectively determined that the socially and economically "best" farm program involved a cutting of government underwriting of farm income to an emergency depression measure, how could farmers be educated to accept such a program? What type of educational approach could be used? What kind of an organization and process would be adequate for this undertaking? What types of media for communicating such an understanding could be most effectively used? What could be the role of farm organization, USDA employees, state college personnel, public schools in such undertakings?

At what stage in the effectuating of the various types of agricultural programs is it most feasible to use coercion? In what types of administrative situations can coercion be effectively used? Can coercive measures be sufficiently enforced without general farmer acceptance of the need for compliance? That is, can only a minority be coerced into compliance? How should coercive measures be brought into effect? Through popular farmer election, legislative action, or administrative order? What are farmer attitudes and reactions to the use of coercion? Have farmers in their referenda on acreage and marketing controls and in conservation district elections on land-use regulations accepted such controls when necessary? How can compliance be enforced? What penalties are suitable? What procedures should be adopted for applying penalties? What would be the magnitude of the administrative task of checking and enforcing compliance? How large a corps of enforcement personnel would be necessary?

Since the amount of time public agricultural employees can spend with each individual farmer is necessarily limited, how is farmers' willingness to carry through a program to be organized into a synchronized pattern of collective action? That is, what administrative devices or instrumentalities are adequate for directing them in a desired agenda of action?

If unified public agricultural activity is to be a major goal, is it necessary also to work towards the goal of equipping every participating farmer with a truly "complete" farm plan which will reconcile and integrate the application of all phases of the agricultural programs upon his farm? Or, will farmer accomplishments in agricultural programs be greater if public employees, rather than attempting to get farmers committed to a definite plan of activities, devote themselves instead to persuading and guiding farmers toward the piecemeal accomplishment of desirable farming practices? For example, has the experience of the Soil Conservation Service with both the "complete" farm conservation plan and the procedure of "widespread practices" indicated the relative efficacy of the two approaches? How effective has the Farmers Home Administration found its farm plan for organizing its clients' activities? What are farmer attitudes and reactions to a farm plan versus specialized work guides and procedures, informational pamphlets, etc.? Do they prefer and are they better equipped to go ahead with a line of action on their farms if the written guide is "tailor made" for each particular farm, and spells out the steps they are to take in exact detail? Or do farmers resent the restriction of a farm plan? Can general work guides and procedural instructions be made

adequate for guiding farmers without detailed personal guidance from a public agricultural employee such as the county agent, FHA agent, Soil Conservation technician? Or is the amount of time such workers must spend with the individual farmer relatively equal in both cases? What are the potentialities of organizing and directing farmers' activities in a particular program through the device of group meetings and instructions? Use of farmer of community leaders to persuade and guide other farmers? Training and employing of local men as sub-professional agricultural aids?

How much material assistance must farmers be given in the various types of land programs? When is it justifiable for federal or state governments to provide machinery, planting stock, or labor for the carrying out of programs on privately owned lands? What are the potentialities for differentials in payments to low-income farmers for their carrying out of conservation work? To what extent should machinery and planting stock provided by federal or state governments be allocated on the basis of capacity of farmers of an area to rent or purchase sufficient equipment to meet their conservations needs? To what extent are PMA conservation payments supporting the work of soil conservation districts? How should the extension of loans through federal agricultural agencies be geared into the objectives of a sound land program?

II. The Farmer's Role in Agricultural Administration

In the evolution of governmental function and organization, it has become increasingly evident that the citizen's role in government must also correspondingly evolve. With the expansion of government services and regulations in men's lives, the centralization of government at a state or national level, the delegation of large authorities and responsibilities to the executive branch, and the increasing complexity and difficulty in carrying out the tasks assigned government, there is a growing belief that citizen participation in government can no longer be limited to periodic visits to the polls. In agriculture where the changes in the nature of government have gone perhaps farther than in any other substantive field, the need for new types of farmer-citizen participation has been repeatedly emphasized. Such groups as the Land Grant Colleges Association, the United States Department of Agriculture, the the Hoover Commission, and the National Planning Association are united in emphasizing the need for farmer participation in the development and application of public agricultural programs.

It is commonly asserted that local farmer participation will serve the needed ends of: (1) utilizing the special, local empirical knowledge of farmers to achieve a more accurate tailoring of national programs to the changing and peculiar needs and circumstances of local areas; (2) securing that positive farmer cooperation which is so necessary for the successful functioning of the "action" programs by providing a mechanism which, functioning at all stages of policy development and application, can go far toward ironing out conflicts between the knowledge and technical opinions of the "experts" and the attitudes and priorities of farm people, as well as conflicts in class, commodity, and sectional interests within the heterogeneous agricultural population itself; (3) providing opportunities for local democratic self-government within the centralized state.

Yet, despite the wholesale endorsement of farmer participation, little is concretely known concerning its present value, potentialities, limitations, even dangers, and of the most suitable organizational and procedural arrangements for making such participation most valuable and effective. Because influential groups are urging the enlargement of farmer activity in agricultural policy formulation and administration, and because such a device may perhaps be the most important determining factor in the success or

failure of a collective public effort, it is of critical importance that this whole relatively unexplored area of farmer participation be carefully investigated:

To what extent have farmer committees or governing bodies proved valuable? What are their potentialities? Their limitations? Their dangers? In terms of their time, interest, and aptitudes, what functions are farmers equipped to perform adequately? Of what value are their judgments and attitudes in policy making? Is their understanding of the common and long-term good and of the needs and interests of the various groups in agriculture broad enough and clear enough for farmers to be given real policy making powers? Do farmers have an empirical knowledge of local needs and problems which is not possessed by professional workers? Can they gauge their neighbors' reactions to proposed actions? Are they more able than professional agricultural employees to "sell" a particular program to other farmers? What types of assignments do farmers prefer? Are they willing to assume the day-to-day operational tasks and responsibilities involved in carrying out a program? Can they effectively determine policies if they do not work in the application of policies? What, in short, should be their range of functions?

What is the optimum authority and responsibility such local groups can possess? How is this dependent upon the type of program or administrative operation involved? How can the attitudes and decisions of local planning and policy-making groups become integrated into national programs of action? Should local groups be purely advisory bodies, have real local administrative responsibilities within a federal or state operated program, or be independent or quasi-independent units of local government? To whom should they be administratively responsible? To a specialized state body or agency? The state college? A federal action agency? Or the secretary of the United States Department of Agriculture?

What would seem to be the most suitable operational balance of function, authority, and responsibility between farmer bodies and professional workers in the local carrying out of each particular type of public agricultural program? What types of techniques have been developed for achieving such a balance? To what extent have agricultural agencies been successful in getting farmer committeemen or administrators to give sufficient time and energy to carrying out the functions and responsibilities accepted by them? What incentive devices have been developed? Should farmers be given a per diem or should their time be obtained through other devices? What mainsprings of motivation can be utilized to obtain their cooperation? How can their public activity be made a satisfying and rewarding experience? What types of training can and should they be given? How is the danger of their being over-indoctrinated with an agency's views and attitudes to be avoided? How does the length of office-holding affect the performance of committeemen?

How many local farmer committees or governing bodies should there be within a single local area? Should each agency be permitted its own local farmer committee or should a single general committee operate alone? If the multi-committee arrangement continues, is it of greater value to develop an interlocking or overlapping committee personnel or to bring in "fresh" farmer personnel which previously has not been "activated?" Do farmers possess the capacity to serve as program "coordinators?" Do local farmer committee groups either facilitate or obstruct program coordination?

What is the need for getting farmer committees which are democratically representative of the farmer interests within the area they serve? Do the attitudes of farmer committeemen tend to coincide with their own particular commodity, sectional or class interests? Can representative committees be appointed? How can representative committees be popularly elected? What should be the basis for representation? Economic level, commodity, or a particular geographical area? How should geographical areas be delineated for representation? What should be the relationships of the organized private farm groups to the committees? What method can be set up for the democratic nomination of candidates? How can popular participation in elections be achieved? How can the participation of low-income farmers be obtained? What are the obstacles to their participation? What means can be used for overcoming these obstacles?

III. Units of Administration and Intergovernmental Relationships

Common understanding has not yet been reached upon some of the most critical problems in determining the proper unit of administration and the most suitable inter-relationships of levels of government. With little supporting evidence, claims and counter-claims regarding vertical intergovernmental relations have been put forward by persons whose institutional backgrounds may bias their views. Even disinterested scholars, in attempting to reach some judgments on most suitable intergovernmental arrangements in agriculture, have so little pertinent concrete data on which to proceed that they must resort to learned speculation. Too little is yet known about such problems as:

Can workable formulae be developed for determining the most suitable level of government for administering a public agricultural activity? That is, can the peculiar attributes, competencies, and resources of each level of government be measured and balanced against the administrative needs of each particular type of program and also the over-all needs of the total agricultural program?

What criteria should be utilized in judging the capacity of a particular unit of government for effective carrying out of a given program? Area of government, resources, size and composition of population, equipment in administrative organization and personnel, attitudes of rural people, and so on?

What criteria can be developed for deciding whether a program is predominantly national, state or local in nature? What are the minimum needs of each of the various types of agricultural programs or operations for central direction and control? What types of central-field administrative relationships can achieve the various necessary minimums of central direction? Establishment of local federal field offices? Utilization of independent local units of government? Use of states as quasi-independent administrative agents for national government? Varying combinations of these relationship arrangements?

What are the potentialities for using local units of government for carrying out federal and state agricultural programs? What are their capacities in terms of area, population, financial resources, administrative competence, democratic representativeness, orientation of purpose, etc.? Could they be brought up to minimum levels of effective performance? How could they be adequately directed and controlled by state or federal agricultural agencies? How could the use of local governments in agricultural programs be geared in with general administrative arrangements for using local governments in the local carrying out of a variety of state programs?

Can the requirements of national programming be met through the use of the states as semi-autonomous administrative agents carrying out a nation-wide program? To what extent can necessary minimums in nation-wide integration and timing in a public agricultural activity be thus achieved? Can national standards of adequate performance be thus established and maintained? Does this arrangement provide a mechanism for bringing a "coordinated" total agricultural program to the individual farmer? If the state colleges were to be given responsibility for the "educational" phases of the action programs, as well as for a share of the "action" phases of soil conservation work what lines of authority and responsibility between the colleges and the Secretary's office would be necessary in the interest of effective national programming? Are the state colleges equipped to handle the administration of the action programs? Can the jurisdictions of "education" and "action" be sufficiently defined to be compartmentalized in an administrative process?

Is there a possibility of developing a new type of administrative partnership between the USDA and state colleges in which the competencies and resources of each can be more fully utilized? How could the field operations of personnel for each agency be integrated into a common enterprise? What devices or procedures (such as joint committees, and joint employees, memoranda of understanding, etc.) have thus far been developed for integrating the activites of state and federally employed local personnel working within a functional field such as soil conservation? How effective have they proved?

Does the organization of agricultural action on a regional basis provide better opportunities for a unified attack upon the multiple interrelationships of agricultural problems? To what extent have regional offices of the USDA served the needs for regional patterns of agricultural activity? What machinery, if any, in addition to state colleges and USDA agencies, is necessary for organizing a unified regional attack upon agricultural problems? In lieu of an outside regional body, how can the state colleges, working with or without the USDA, gear their efforts together in regional research, education, and "action"?

IV. Integration of Federal Agricultural Programs

With the disorganized establishment and growth of the relatively autonomous New Deal action agencies within the Department of Agriculture, has come great stress upon the need for an organization of the USDA which will permit the development of integrated agricultural programs and the coordination of the activities of the action agencies. The charges of "duplication of effort," "overlapping of function," "conflicting policies," and "confusion of purposes" have frequently been leveled at the public agricultural efforts. Despite the periodic preparation by management experts of an assortment of blueprints for allocating functions and responsibilities in the interest of "rationalized" management, little exploration has been done into a variety of questions having strategic bearing upon the actual securing of a coordinated local application of an integrated total farm program. Many of these questions can be answered only by a series of close investigations in the rural counties and communities themselves.

What is the actual amount of local conflict, duplication, and overlapping of public agricultural efforts? To what degree is the individual farmer, in fact, dealing with "many separate agencies which too frequently follow conflicting policies?" To what extent is there a duplication of agency effort within each functional field within a county? Is this duplication of effort among the federal agencies or between a federal agency and the state college? Is this actually conflicting effort? Does this duplication, in fact, mean that some of the dual effort is unproductive? To what extent do the personnel of the various agencies attempt to gear their work together to eliminate possible conflict and duplication? Are farmers confused by actual conflict and duplication of effort, or simply by the sheer number of agricultural agencies rendering the various types of agricultural services? That is, will a reorganization of federal bureaus and agencies solve the problem of the farmer's having to deal with a variety of agencies, or is there need for a single agricultural office and chief administrator in the county?

If the activities of the USDA were to be classified and divided into a few functional action agencies over which the Secretary has a real management control, will program coordination at the local level necessarily follow? In the interest of bringing a unified program to the individual farmer, is there a need for a single chief agricultural administrator in each county? To whom should he be responsible? What should be his equipment in background and training?

What are the potentialities and limitations of the various devices and procedures for local program coordination which are now being used? That is, county councils of professional agricultural workers, common housing of professional workers, interlocking personnel on farmer committees, joint employees, state coordinating committees, informal conferences and agreements on lines of action, use of standardized methods and procedures such as land capabilities classifications, farm plans which can serve as a guide to all agencies working with a farmer, memoranda of understanding spelling out the respective activities, duties, and responsibilities of each agency, commonly developed and agreed upon work guides, etc. How can these devices be refined, expanded, developed? What new procedures for local coordination might be added or substituted?

It is perhaps not feasible from the vantage point of the average state college to explore such important questions in the reorganization of agricultural agencies as the actual overlapping and

duplication of effort of personnel in the Washington and regional offices; the amounts of money to be saved by eliminating such duplication; losses in time and efficiency due to personnel demoralization brought on by reorganization; the degree to which reducing the number of agencies reporting to the Secretary will give him real control over the powerful action agencies, each supported by its vast farmer clientele; whether the consolidation of programs may in some cases distort or suppress worthwhile lines of activities; how the most fundamental cause for conflicting and overlapping programs of action—conflicting legislative policies and mandates—can be replaced by a continuate and integrated program development. Yet, the problems in securing the local carrying out of a unified program have an equally critical bearing on the development of coordinated agricultural activity. Without information on such local situations, those working at the federal level for integrated programming are not in a position to act intelligently.

V. Suggested Projects

The determination and carrying through of government's agricultural policies is one of those public processes of an interdependent industrial society whose problems can be solved only by all the social science disciplines being geared together and brought simultaneously to bear upon them. Thus the samples of possible projects suggested below have been chosen not only with a view to giving a cross-section of the type of projects which suitably might be undertaken, but also to point up the possibilities of bringing the competencies and energies of those trained in sociology and extension education, as well as those of the economist and political scientist, into this area of research. Also, the desirability of bringing graduate students into such research undertakings has not been overlooked in the listing of possible projects. The following projects should be considered in light of the relevant questions asked in the foregoing pages.

1. Investigation to determine: (1) optimum of functions, responsibility, and authority which can be assumed by local farmer bodies in relation to locally assigned professional agricultural workers and to higher levels of administrative authority; (2) means of obtaining optimum farmer activity. An analysis of the operations of farmer committeemen in a variety of administrative contexts, through case studies of farmer administrative bodies with varying degrees of authority (i.e., Soil Conservation District Supervisors, PMA Committees, and FHA Committees) in selected counties.

2. Collection and analysis of personnel data on state and local farmer administrators, to discover: degree to which they are representative in education level and economic status (ownership status, size of farm, cash income, etc.) of a cross-section of rural population of the area they serve; membership in farm organizations and other organized groups; offices in organized community undertakings currently or previously held; other public agricultural bodies on which they have served or are currently serving; correlation of the above factors with their activeness and competency in committee work, and with their attitudes on various types of public agricultural programs.

3. Survey and comparison of voting patterns in PMA and soil conservation district referenda and elections with those of township and county government elections. Study of possible ways of securing larger and more representative participation in public agricultural elections, and of devising democratic nomination procedures for those elections.

4. Examination of the most meaningful units of farmer representation on public agricultural committees. Study of the suitability of such bases for representation as geographical area, economic class, commodity interest, "natural" neighborhood and "natural" community.

5. Exploration of possibilities of county governments as administrative agents for federal and state agricultural action programs. Survey of the present role of county

government in federal, state and local agricultural programs. Analysis in selected rural counties of such factors as suitability of county as an area for dealing with various types of agricultural problems: financial and material resources the county is capable of bringing to public agricultural programs; need for utilizing county government's legal powers of ordinance, eminent domain, and taxation; orientation and attitudes of county officials; capacity of county administrative organization and personnel to carry on new activities; farmer attitudes toward county government. Possibilities of fitting agricultural administration into the current county government organization. Role of county board of supervisors and elected county officials in the administration of such programs. Relationship of agricultural administration to other functions of county government. Degree of autonomy to be accorded agricultural administration within the county organization. Methods of selecting agricultural workers, and the division of their administrative responsibility between the county and state or federal agencies. Amount of overhauling of county government necessary to make it adequate for the jobs contemplated above. Types and extent of state guidance, supervision or control over counties necessary under such an arrangement

6. Present and potential usefulness of local government units (such as county, townships, soil conservation districts and drainage districts) in broad multi-purpose federal programs of a sub-regional or regional character, such as the Little Sioux flood control program or the larger Missouri Valley Development Program.

7. Analysis of methods used at the state level by federal action agencies and the State College for integrating the activities of their state and local personnel working within related functional fields.

8. Study of the legal and administrative interrelationships of federal, state and local rural land programs.

9. An appraisal of federal-state cooperation under marketing research legislation.

10. Position of the county agent in the development and carrying out of federal agricultural programs in the county.

11. The administrative problems involved in undertaking regional research in agriculture and related fields. For example, a study of arrangements under which federal and state agencies attempt (or might attempt) to perform regional research. The place of a valley authority (or some similar independent regional administrative body) in facilitating such research.

12. Activities of the office of State Secretary of Agriculture. Relationship of these activities to those of other state, federal and locally administered agricultural programs.

13. Study of a state's rural road system. Effects upon rural land use. Methods and adequacy of financing. State and local relations in road administration.

14. A summary and appraisal of real property tax laws and their administration in rural areas.

15. An analysis of state drainage laws and their administration; survey of drainage district operations; their relationships with county government, soil conservation districts, and other *ad hoc* agricultural districts.

16. Survey in sample counties to appraise: (1) actual amount of "conflict," "duplication", and "overlapping" in local application of agricultural programs—i.e., degree to which individual farmer deals with many agencies following conflicting policies, amount of duplicated effort within a functional field, degree to which such duplication is conflicting or unproductive, effect of duplication upon farmer attitudes toward government programs; (2) efforts of local representatives of federal and state agencies to gear their work together.

17. Extent to which farmer personnel on local agricultural committees "interlock." Degree to which farmers serving on more than one public agricultural body are useful in ironing out conflicts between agencies, harmonizing their efforts, etc.

18. Series of surveys and opinion-sampling polls of a representative cross-section of farmers of a state to discover: (1) Amount of farmer understanding of objectives of agricultural programs and of the means used for reaching such goals; attitudes toward farm problems and programs. (2) Relative effectiveness of various types of communication media (individual contacts with public agricultural employees, contacts with "leading" farmers, associations in farmer organizations, group meetings, pamphlets, radio, newspaper, etc.) for creating an understanding of agricultural problems, programs, need for joint farmer action. (3) Reasons why "cooperating" farmers are participating in

various programs; incentives which induced them to come into programs.

19. Case studies to discover the effectiveness of instruction through the "group action" procedure as a substitute for individual guidance by SCS technicians in the soil conservation program.

20. Study of the suitability of alternative (and perhaps complementary) public measures for influencing private use of rural lands. Such measures include rural zoning, deed restrictions, land use regulations, tax assessment and collection procedures, classification and disposal of tax forfeited lands, and the location and maintenance of roads and schools with an eye toward influencing the type and intensity of the future land use pattern in rural areas.

With the noticeable withdrawing of the USDA from research in the problems of agricultural political science, it is increasingly necessary for the state colleges to carry on research in the social, political and administrative factors which must be weighed in developing and effectuating agricultural policies.

It is desirable that the state colleges step out farther into this field of research, not only because the responsibility has been left on their shoulders, but because they possess the research advantage of closeness to agricultural programs as they reach the farmer. That the colleges are recognizing the challenge and opportunities in this area of research is shown by the growing preoccupation of state college personnel with the political and administrative problems in public agricultural activity and with the related problems of developing more effective rural local government.

The greatest handicap for economic, sociological, or political science research at the state level is that it frequently cannot have sufficient breadth and perspective for its findings to give a complete or representative regional or nationwide picture. The task, then, is for students in the state colleges so to organize their efforts that the results of their investigations can total up to a broader research product.

Regional committees, composed of representatives from interested state colleges, might be set up to promote and guide agricultural administration research. Such committees could have as their responsibility the setting up of research objectives; the marking out of sub-areas or fields of research; the establishment of priorities in problems within each field; the ascertaining of relevant factors to be studied; the adoption of common standards of comparison and evaluation; the development of precise definitions in terminology; the outlining of common research procedures, statistical methods; the standardization of schedules. If research projects, thus organized, were carried on within several states, their findings would be sufficiently comparable that they could be woven together by the committees into a meaningful total picture.

Territorial Aspects of Electric Rate Making by the Public Utilities Commission of California

By WILLIAM F. KENNEDY*

THE California Commission was one of the first state commissions to raise the question of territorial aspects of electric rates for utilities expanding beyond the limits of a single community. One author points out: "Although the practice of averaging generation and distribution costs in order to supply current to several communities at a uniform price was adopted in California as early as 1914 with the Antioch Case, the policy neither deserved nor received much attention at that time."[1]

The Antioch case did not involve uniform rates to consumers in several communities. The commission established new rate schedules only for Antioch, a small community with total annual gross revenues of less than $12,000. But to do this "it has been necessary to investigate defendant's entire hydro-electric system, extending from the crest of the Sierras to the Pacific Ocean, and also that portion of its plant which is engaged in the production and transmission of electric energy produced by steam, as well as the local distributing system of the town of Antioch."[2]

In fixing rates for Antioch, the Commission divided the cost into two parts, one being the cost of electric energy delivered at the gates of Antioch and the other the cost of local distribution. The Commission pointed out that "the Pacific Gas and Electric Company's transmission system is a unit, so that electric energy from any of these three sources (hydro, steam, purchased energy) may at any time when necessary be transmitted to Antioch."[3] Furthermore, "Pacific Gas and Electric Company in this proceeding agreed that a basis should be fixed herein on which to ascertain the cost of energy delivered to all the cities which it serves with electric energy."[4]

The two terms, "cost of energy deliverable at substations" and "local costs of distribution," are used in a broad sense by the Commission. These two categories embrace the total allowable costs of electric service for rate purposes. "Local costs of distribution," as used by the Commission, includes much more than the costs of operation and maintenance of the distribution system. Among the costs included are new business, commercial, and utilization expenses, as well as a share of taxes, general expense, depreciation and return on investment. As used by the Commission, the term, costs of distribution, includes all costs involved beyond the point of delivery to distribution substations.[5]

Under this method, total revenues collected from all customers in each of two cities receiving identical amounts of energy under identical conditions at their distribution substations would differ by the amount of difference in total local

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[1] Walter E. Caine, "An Analysis of the Uniform Rate Area as a Territorial Rate Policy," *Journal of Land & Public Utility Economics*, May 1932, p. 148.

[2] *Town of Antioch* v. *Pacific Gas and Electric Co.*, 5 Decisions of the Railroad Commission of the State of California (hereinafter cited as C. R. C.), 22, Dec. No. 1655, Case No 400, July 6, 1914.

[3] *Town of Antioch., op. cit.*, p. 42.

[4] *Ibid.*, p. 44.

[5] For a detailed treatment of the problems of determining costs of distribution see, *Cost of Distribution of Electricity*, Federal Power Commission, National Power Survey, Power Series No. 3 (Washington: 1936), pp. 37-48.

costs of distribution, which represents the geographic differential between the two cities. In two cities with an identical total "cost of energy deliverable at substation," the residential rates of one might be higher than those of the other, reflecting, for example, a condition of lower customer density in the former city.

Most commonly the costs of electric service for rate purposes have been analyzed in terms of energy, demand, and customer cost components. The two components proposed by the Commission fully embrace these three components. "Cost of energy deliverable at substations" includes the traditional energy component and that part of demand costs that relates to generation and transmission, and "local costs of distribution" includes the customer cost component and that part of demand costs occurring on the system from the substation to the customer's meter.

The commission reinforced the Antioch principle in the San Jose case the following year. The Pacific Gas and Electric Company contended that the costs of the San Jose steam plant should be assigned entirely to San Jose in computing rates for that city since it was used exclusively for San Jose and delivered no energy to the system. The Commission insisted on treating the entire production and transmission system as a unit, pointing out that the San Jose plant output was cut back according to availability of hydro power on the system and that the steam plant was operated not for local economy but for system economy.[6]

Thus at a relatively early time in the history of electric rate regulation in this country, the California Commission established the principle that the costs of electricity were the same at every point on the main transmission network of a utility. Caine cities testimony by officials of the Wisconsin Power and Light Company, in February 1928, before the Wisconsin Legislative Interim Committee on Water Power that their company served 200 communities in a 10,000-square-mile area with electricity generated in both steam and hydro plants inter-connected by transmission lines and hence " the cost of power at any point on the main line system should be the same."[7] This policy proposed in 1928 is similar to that adopted in the Antioch Case in 1914.

The explanation for the fact that the California Commission was the first to adopt the principle of system uniformity of generation and transmission costs lies in the history of the industry and of rate regulation in California. The Commission was given jurisdiction over electric rates in 1912. The problem of rates in Antioch came up two years later and the Commission found that the utility serving Antioch had an integrated system serving a sizeable area. The Pacific Gas and Electric Company at this time operated 10 hydroelectric plants located in 6 counties and 4 steam plants located in San Francisco, Sacramento, Oakland, and San Jose, all tied into one transmission system.

The rate theory adopted by the Commission was consistent with the observed nature of organization and operations of the utility. This theory views the generation and transmission system as an entity and regards the location and operation of generating plants as matters determined by over-all system efficiency and economy. Hence a customer who lives near a steam or hydro plant is not favored with a geographic differential over a similar customer who lives midway between two generating plants.

[6] Thomas Monahan, as Mayor of *San Jose* vs. *Pacific Gas and Electric Company*, 8 C. R. C. 571, Dec. No. 2947, Case No. 477, Nov. 30, 1915.

[7] Caine, *op. cit.*, p. 152.

The Commission in its regulation of electric rates largely skipped the infant stage of the industry, which was characterized by small plants serving a small area in one city. A territorial rate theory which was based upon observations of the organization of the industry in its infant stage would tend to view the proper geographic differentials as representing the cost of transportation of energy from the original city or "load center" of the system. This view has a parallel in other industries, such as steel, where the product is shipped from a mill into surrounding territory. Under such conditions it is correct to say that geographic discrimination among customers does not exist if the seller receives "uniform mill nets" on all sales, that is, the product is sold F.O.B. the mill. Just as the California Commission skipped the infant stage of the industry, it escaped the rate theories that were based on the conditions of that stage of development. In the 1920's and later there was a strong tendency toward development of electric utilities into integrated systems, similar to that which confronted the California Commission in 1914; and the territorial rate theory of the California Commission received increasing attention in other jurisdictions, particularly as revealed in the growth of uniform rate areas. The following table shows the rapid increase in uniformity of schedules that occurred after 1925.[8]

TREND TOWARD UNIFORMITY FOR 43 UTILITIES

Year	*Average Number of Residential Rate Schedules per Utility*	*Average Number of All Rate Schedules per Utility*
1920	27	79
1925	27	76
1930	10	44
1935	6	32

The 1922 Rate Case. The next important declaration of policy by the Commission occurred in the 1922 case against the Pacific Gas and Electric Company. The decision in this case reiterated the Antioch principle of system uniformity of generation and transmission costs but modified the previous treatment of local costs of distribution. Local costs of distribution were no longer separately computed for each municipality; instead three zones were established and each locality was placed in one of the zones in accordance with its costs of distribution.

Specifically, three general lighting rates, "applicable to general domestic and commercial lighting service" were fixed for the entire system.[9] Schedule L-1 applied to the congested metropolitan area of the bay district, including the cities of San Francisco, Oakland, Berkeley, Piedmont, Emeryville, San Leandro, and Albany. Schedule L-2 applied to all other incorporated territory on the system and Schedule L-3 applied to the entire territory outside of incorporated limits. The three schedules were identical in form but different in level. The difference between L-1 and L-2 was only 10 cents at all points of consumption, but L-3 was considerably higher than L-2. For example, a bill for 100 kilowatt hours amounted to $5.80 in Zone 1, $5.90 in Zone 2, and $7.05 in Zone 3.

The Commission did not specifically state the justification for uniform rates for all communities that comprised one rate zone but evidently had diverse costs of service for general lighting service. The following quotation implies that the Commission justified the uniformity of rates on the basis of cost of service modified to

[8] *Electric Rate Uniformity*, Federal Power Commission, Rate Series No. 7 (Washington: 1936), Table VIII, p. 7.

[9] With regard to power rates the Commission stated: "A general power schedule has been fixed, applicable to commercial and industrial power service throughout the entire system. This schedule applies to service rendered at standard voltages." (*In the Matter of Pacific Gas and Electric Company*, 22 C. R. C. 786, Dec. No. 11457, Dec. 30, 1922.) The policy of setting power rates on a uniform basis with respect to both form and rate level throughout the principal service area has been consistently followed by the Commission from 1922 to date.

attain the end of system rate simplicity. "Forms of rates must be relatively simple, yet must meet the widely varying conditions of retail and wholesale service. It is impossible and uneconomical to attempt to fix rates such that each district or each class of consumer will return to the company an equal rate of compensation for the average proportion of the plant necessary for their service. The system is so extensive and receives power from so many points that the service to the different classes of consumers is largely interdependent as to costs."[10]

Richmond Case. There has been no important formal pronouncement by the California Commission of its electric rate theories since 1922. However, the Richmond Case of 1945 brought the theories up for examination, and the testimony in the proceeding reveals some of the problems arising from application of these rate theories.

The complainant cities, Richmond and El Cerrito, are highly industrialized communities situated to the east of the city of San Francisco and separated from that city by San Francisco Bay. The two cities comprise a part of a relatively heavily populated and highly industrialized region referred to as East Bay Cities. This region includes parts of Alameda and Contra Costa Counties. In Alameda County the cities of Oakland, Berkeley, Piedmont, Emeryville, San Leandro, and Albany were classified in Zone 1 of the rate area of the Pacific Gas and Electric Company. Richmond and El Cerrito are contiguous to this area, but are in Contra Costa County, and were classified in Zone 3. The rates complained of were residential and commercial schedules. The following tabulation shows a comparison of typical bills for Zones 1 and 3 in the schedules complained of:

Schedule	Typical Bills			Excess—Zone 3 over Zone 1	
	(Kwhrs)	Zone 3	Zone 1	Amount	Percentage
D—Domestic	100	$ 3.26	$ 2.92	$ .34	11.6
L—Comm. Ltg.	200	7.10	6.40	.70	10.9
C—Comm. Lt. & Pr.	1000	29.80	27.60	2.20	8.0

The entire East Bay region, and more particularly Richmond, experienced rapid industrial and population growth in the defense and war booms that preceded this complaint. The complainants argued that this rapid growth eliminated any economic differentials that may have justified less favorable rates in the pre-war period. The complainants urged that the mere existence of a county boundary line did not justify charging typical residential and commercial customers approximately 8 to 12 percent more for service because they lived on the north side of the street that served as the county boundary.

In the Richmond Case the city contended that it should be placed in Zone 1, and the company contended that Richmond should remain in Zone 3. The question was raised: "What determines whether Richmond is classified as Zone 1, 2, or 3?" The Commission has never made public the details of its method of

[10] *In the Matter of Pacific Gas and Electric Company, op. cit.*, p. 784.

determining to which zone a particular city is assigned. The testimony of the parties in this case is of interest because it throws an indirect light on the determinants of zone classification of particular cities.

Mr. Jenny, the chief rate witness for the Company, in his direct testimony made the following points: (1) Richmond is below Zone 1 in customer density. (2) Richmond is not up to Zone 2 in customer density or total number of customers. (3) Customer density of Richmond and El Cerrito is a little below the average of other cities in Zone 3.[11] In each of the three points cited, emphasis was laid on the customer density of Richmond as a determinant of its proper zone classification. The representative of the city, Mr. Ready, in his cross-examination of Mr. Jenny, therefore raised the question, "Is cost of service [hence, rate level] a direct function of customer density?"[12] And Mr. Jenny answered affirmatively.[13]

After Mr. Jenny stated that cost is a direct function of customer density, Mr. Ready confronted him with the fact that the East Bay cities get the same rate as San Francisco, yet have a customer density that is more than 40 per cent less. The company witness explained that this was an exception based on the greater proportion of underground distribution in San Francisco which tended to raise the costs and thus overcome the advantage of greater density.[14]

A further exception to the rule of direct function was unearthed when Mr. Ready questioned Mr. Jenny on rates in Fresno and Bakersfield. Mr. Jenny's reply indicates that difficulties of rate adjustments at the time of acquisition may partially explain why a city is assigned to a particular zone.[15]

In answer to the question why Sacramento with a high customer density did not get Zone 1 rates, the Company witness replied that precedent or rate history was an important determinant in establishing the Zone 1 area.[16]

Further evidence that customer density was not the sole factor in determining rate differentials was brought out in cross examination on the amount of difference in rates and in customer density between Zones 1 and 2 and between Zones 2 and 3:

"Q. Now, can you justify the conclusion that although there is a difference of 85 customers per mile of line as between zone 1 and zone 2 and only 22 from zone 2 to zone 3, the differential between zone 2 and zone 3 should be much larger than between zone 1 and zone 2?

"A. I would say that it is rather difficult to justify that rate differential between zone 2 and zone 3 in view of the smaller differential as between the average customer density of those two zones. . . The Railroad Commission and ourselves from time to time in fixing those rate levels . . have set the levels at what was considered to be the proper spread of the reduction agreed upon by not only the Commission and the Company's staff but also by the participants that the Commission has asked to consider the matter . . ., such as the cities' representatives and representatives of other interests.

"Q. So apparently there are a good many other factors besides customer density which are finally weighed into the final conclusion as to rates.

"A. With respect to the amount of the reduction and the spread of the reduction, yes, there are a lot of factors that are taken into consideration.

[11] Rudolf Jenny, Direct Examination, Reporter's Transcript, Railroad Commission of California, Case 4748, pp. 284-289.

[12] Mr. Lester S. Ready at this time was practicing as an independent rate consultant. Formerly he had served as Chief Engineer of the California Railroad Commission and as Chief Consulting Engineer with the National Power Survey of the Federal Power Commission.

[13] Rudolf Jenny, Cross Examination, Reporter's Transcript, Railroad Commission of California, Case 4748, p. 294.

[14] Jenny, Cross Examination, *op. cit.*, pp. 294-295.

[15] Jenny, Cross Examination, *op. cit.*, pp. 298-299.

[16] Jenny, Cross Examination, *op. cit.*, pp. 300-301.

"Q. But that in effect finally results in the differentials between different zones, does it not?

"A. Yes, sir."[17]

The testimony of the two parties in this case shows the difficulties of making a precise statement of the determinants of differentials under the zoning method. The Commission in its decision furnishes no further light by its statement that ultimately zoning is determined by "judgment":

". . . for the ultimate determination as to what constitutes the proper zoning is not alone dependent upon population, nor density, nor location, nor competitive conditions, nor value of the service, nor whether incorporated or unincorporated, nor past rate history, nor cost to serve, but a weighing of these and other items as judgment dictates under the particular circumstances obtaining."[18]

This statement should be read in its context, that is, as an explanation of the method of assigning Richmond to its proper zone, rather than as an explanation of the over-all methods of rate making for all zones. The assignment of zones for the entire system permits a smaller role for "judgment" and a greater role for comparative studies of costs and other factors than this statement indicates.

In applying its method the Commission can analyze the relevant factors and theoretically, at least, make an array of communities running from least cost of distribution to greatest cost, and can break it off in six parts representing the six zones. The breaking points may represent rather close decisions and ultimately the decision of the proper zones of particular cities at the breaking points must rest on judgment. The number of close decisions probably represents a small percentage of the total decisions.

The above statement of the "probable method" of the Commission is based largely upon the impressions of the author after examining the available materials and discussing them with staff members. A request to examine studies of comparative costs and other analyses made by the Commission or the companies was met with the reply that such information is not available to the public. This does not imply that such studies are not made and used, and it is the impression of the author that a considerable amount of analysis along these lines is made by the staffs of the Commission and the companies. For example, Mr. Manley W. Edwards, senior engineer on the staff of the Public Utilities Commission, introduced in a recent rate case results of "a tentative functional cost analysis study and a study of rate of return by classes of service."[19]

The differentials applicable to Richmond and other East Bay cities represented an instance of close breaking points, for the decision in the case granted Richmond most of the relief it was seeking.[20] The Company was ordered to change the classification of Richmond from Zone 3 to Zone 2, and most of the differential between Richmond and other East Bay cities was removed as shown in the following comparison of differences in typical bills before and after the decision:

Schedule	Typical Bill (Kw hrs)	Differentials	
		Before: Zone 3 over Zone 1	After: Zone 2 over Zone 1
D. Domestic.....	100	$ .34	$.10
L. Comm. Ltg.....	200	.70	.10
C. Comm. Lt. & Power.....	1000	2.20	.00

[17] Jenny, Cross Examination, *op. cit.*, pp. 312-313.

[18] *City of Richmond and City of El Cerrito* v. *Pacific Gas & Electric Company*, 45 C. R. C. 673, Dec. No. 37765, April 3, 1945.

[19] Manley W. Edwards, Direct Examination, Reporter's Transcript, Public Utilities Commission of California, Application No. 28791, California Electric Power Co., pp. 800-801.

[20] *City of Richmond, op. cit.*, p. 674.

The rapid growth of Richmond and El Cerrito indicates that changes were occurring to justify the moving of this area over the borderline between Zones 3 and 2. The population density of Richmond increased 270 per cent compared to a 31-percent increase in the six East Bay cities during 1940-1943. With respect to gross electrical receipts in the eight East Bay cities, Richmond and El Cerrito accounted for less than 7 percent in 1940 and for 20 percent in 1943.[21]

A large part of the hesitancy to reclassify Richmond was based on the fact that the changed economic conditions of electric service reflected a war time boom in industry and temporary housing in the area much of which, it was anticipated, would be lost. The assumption that wartime changes were largely temporary was not confined to policy-makers in utility rates in 1944 and 1945.

Economic and Administrative Aspects of the Zoning System

In the preceding discussion of the development of the rate theories and policies of the California Commission attention has been confined to the cases involving the Pacific Gas and Electric Company. This was a matter of necessity since the leading cases on territorial aspects of electric rate making involve the Pacific Gas and Electric Company. This company is the largest in California and accounts for approximately one half of the energy sold under the jurisdiction of the Commission. Next largest electric utility is Southern California Edison Company, which accounts for approximately one-third of the energy sold under Commission regulation. A brief consideration will be given to some of the problems involving the latter, but in the main this discussion of the economic and administrative aspects of the zoning system will center about the problems arising from the regulation of the rates of the Pacific Gas and Electric Company.

Political Boundaries of Rate Zones. The California zoning system as applied to the rates for a particular center of population in the system provides one rate for the incorporated area (Zones 1, 2, ,3 or 4) and another, or possibly two other rates, (Zones 5 or 6, or both) for the surrounding unincorporated areas. Thus rate zones in any particular economic area have political boundaries, and as a result may be arbitrary from an economic standpoint. The following illustrates a typical situation: customers in an outlying and unincorporated area are billed under zone 6; the area incorporates or is annexed to the city, and, with no change in economic characteristics, the billing is reduced to that of zone 4 or lower.

To ascertain the nature and amount of rates changes arising from incorporation of areas of service in the Pacific Gas and Electric Company system, a study was made covering a twelve-month period from November 26, 1947 to November 25, 1948. Two principal kinds of change occur in corporate status: annexation of unincorporated areas by existing incorporated communities and the formation of new municipal corporations. The following tabulation shows the number of customers affected and annual revenue reductions resulting from annexation of unincorporated areas by existing incorporated communities.[22]

ZONE CHANGES BY ANNEXATION OF UNINCORPORATED AREAS

Number of Customers		Annual Revenue Reduction	
Domestic	*Commercial*	*Domestic*	*Commercial*
5,700	581	$24,483	$14,055

[21] *Ibid.*, p. 670.

[22] Data for this and the following tabulation were compiled from *Advices of Pacific Gas and Electric Company*, Nos. 51-E to 66-E, inclusive. November 26, 1947 to November 25, 1948 inclusive. Files of Public Utilities Commission (San Francisco, California.)

A similar tabulation follows showing zone changes resulting from formation of new municipal corporations in the same period.

ZONE CHANGES BY FORMATION OF NEW MUNICIPAL CORPORATIONS

Number of Customers		Annual Revenue Reduction	
Domestic	*Commercial*	*Domestic*	*Commercial*
5,528	867	$25,100	$22,040

The total number of customers affected by these rate changes was 12,676, or approximately one per cent of the total number of customers served in these classes.

The average annual rate reduction was $4.42 for all domestic customers and $24.93 for all commercial customers included in the two tabulations. In one community domestic customers received annual savings of almost $14 per customer through annexation. It is unlikely, however, that reductions of even this magnitude have had any noticeable effect in inducing annexation or incorporation. Reductions in electric rates are a minor factor among the many factors considered by voters making a decision on whether a change in corporate status is desirable.[23]

From the economic standpoint, the rate zones for a particular economic area in the system should correspond to cost and service differentials on the distribution system and not to the arbitrary political boundaries between incorporated and unincorporated areas. Zone 5 was created to help meet this economic consideration. It provides for a lower rate than Zone 6 for unincorporated fringe areas that have favorable service characteristics. It meets the problem only in part, for such areas may have lower costs than other areas receiving Zone 4 rates, and further improvements in cost and service characteristics can result in no better classification than Zone 5 until the area incorporates.

Use of political boundaries for rate zones has administrative advantages that may outweigh the disadvantage of being arbitrary from the economic standpoint. From the administrative standpoint, use of political boundaries simplifies rate-making. This method saves the costs of engineering and accounting analyses required to check on changing cost and service characteristics in those areas surrounding incorporated communities. From the public relations standpoint, this method has the advantage of using zone boundaries fixed by the voters of the area. To the layman a political boundary is more readily understandable than a boundary based on complicated engineering and accounting analysis. The Commission avoids the onus of fixing a dividing line of rates which may seem "arbitrary" to those on the side of the line with the higher rates.

Uniformity and Simplicity of Rates. Currently there are six zones for residential and commercial service in the Pacific Gas and Electric Company system, but when the zoning system was first adopted in 1922 three zones were used. Since then a strong tendency toward uniformity has occurred in the country as a whole.[24] During this period the California Commission has not used the zoning system as a means of attaining increasing uniformity in rates. While the increase in the number of zones in the Pacific Gas and Electric system reflects an increase in the number of cities served and an increase in the range of population of cities, it also indicates a Commission policy of emphasis upon cost of service rather than upon greater uniformity of rates.

[23] A member of the staff of the Commission stated that he knew of only one instance of a community seeking information prior to incorporation on the effects upon electric rates of the proposed change in status.

[24] See above.

A comparison of typical bills of 100 kilowatt hours of residential service under the zoning system of 1922 and of today shows that geographical differentiation has increased. In 1922 the difference in typical bills in Zones 1 and 2 was 10 cents, or less than 2 percent. At present the differences between Zone 1 and present Zones 2, 3, and 4, which correspond to the old Zone 2, range from 16 to 52 cents, or from 5.7 percent to 18.4 percent of the bill in Zone 1. In 1922 the difference between Zone 1 and the highest rate, Zone 3, was $1.25, or 21.6 percent of the Zone 1 bill. The present differences between Zone 1 and Zones 5 and 6 range from 71 cents to $1.34, or from 25.2 percent to 47.5 percent of the Zone 1 bill.

One of the advantages cited for uniformity is that the relative simplicity of such rates lowers costs and rates by removal of differences in rates that cause inquiries, dissatisfaction, and litigation. Simpler and more uniform rates also increase the ability to shift personnel among districts and may result in cheaper billing and more efficient accounting.[25] While the rates under zoning are not as simple as those that would result from the use of one uniform rate area, they are simple in relation to the schedules that would result from rate making on a community basis.

The following tabulation shows the nature of uniformity and simplicity achieved by the zoning system for domestic rates of the Pacific Gas and Electric Company.

DOMESTIC RATES OF PACIFIC GAS AND ELECTRIC COMPANY

Zone:	1	2	3	4	5	6
Service Charge	40c	50c	50c	50c	55c	60c
First 40 Kwhrs.	2.9	2.9	3.2	3.5	3.7	4.4
Next 60 Kwhrs.	2.1	2.2	2.3	2.4	2.5	3.0
Next 100 Kwhrs.	1.7	1.8	1.9	2.0	2.0	2.3
Excess Kwhrs.	1.0	1.0	1.0	1.0	1.0	(1.1) (.9)

[25] Caine, *op. cit.*, p. 150.

The uniformity achieved in the zoning system illustrated here may be described as a uniformity of structure or form with variation, not uniformity, being permitted in the rate level. In each zone the schedules have a service charge and identical blocking, with varying pricing. The energy charge after the first 200 kilowatt hours is uniform at one cent, except in the rural areas where a seasonal charge of 1.1 cent is made from June to September and 0.9 cent from October to May.

The degree of simplicity achieved in the six zones constituting the principal area of service of the Pacific Gas and Electric Company does not obtain in the entire jurisdiction of the California Commission. This is established by a brief consideration of the electric rate structure in the area served by Southern California Edison Company, second largest electric utility under the jurisdiction of the Commission. In the year 1947 the average number of domestic electric customers served by this utility was 596,398. They were served under 67 schedules.[26] The average number of domestic customers per schedule was 8,900. This compares with an average of nearly 140,000 domestic customers per schedule in the six principal zones of the Pacific Gas and Electric Company.[27] The latter company reported an average number of domestic customers of 870,210 in 1947. They were served under 27 active schedules plus 2 special contracts, all of which were of the domestic type, including

[26] Southern California Edison Company, Ltd., *Annual Report to the Public Utilities Commission of California*, year ended Dec. 31, 1947, Schedule 601.

[27] Pacific Gas and Electric Company, *Annual Report to the Public Utilities Commission of California*, Year ended Dec. 31, 1947, Schedule 601.

apartment house and multi-family schedules.[28] Of the 870,210 customers 838,722 were served under the uniform schedules of the six zones.

The principal reason for the difference in the number of residential schedules is that the Southern California Edison Company has from one to four rates applicable in each of its zones according to type and capacity of appliances used, while the Pacific Gas and Electric Company serves all residential uses under a single-block, meter-type rate. The standard of simplicity is not consistently followed in the rates of the Southern California Edison Company. Advantage is taken of the simplicity that follows from averaging local costs of distribution by placing a number of communities in a single zone, but the further advantages obtainable by averaging different kinds of residential uses through the rather common device of a single block meter type of rate is disregarded.

Geographic Discrimination and Reactions of Municipalities

The rate schedules of Pacific Gas and Electric Company shown in the tabulation appear relatively simple considering the great number of communities served and the variations in their characteristics. Simplicity has been achieved, but has it been at the price of unfair or excessive discrimination against some of the areas? The objective of administrative ease has always justified reasonable classification in rate-making based on averaging of costs. Engineering and accounting data are not available to determine (1) whether the differences in zone prices correspond to differences in cost of serving the zones, and (2) how wide a spread exists in costs of service to cities that are classified in the same rate zone. Under the circumstances the best available measure of geographic discrimination is the reactions of customers and municipal officials to the rates resulting from the zoning system.

Municipalities and groups of customers have the right to complain of rates to the Commission. The only formal case involving a complaint that the existing zoning system was discriminatory was the Richmond Case.

Another measure of dissatisfaction with established differentials can be found in the number of municipalities changing from private to municipal ownership. Only one important instance of municipal ownership has occurred in recent years, the formation of the Sacramento Municipal Utility District which was initiated in 1938 and completed in 1946. There is evidence in this proceeding that geographic discrimination arising from the zoning system spurred municipal ownership. The following tabulation shows that a substantially higher rate of return was earned in the district than in the entire system of the Pacific Gas and Electric Company.

COMPARISON OF RATES OF RETURN FOR THE SYSTEM AND SACRAMENTO MUNICIPAL UTILITY DISTRICT

1937		1938		1939	
System	SMUD	System	SMUD	System	SMUD
6.74	8.43	6.43	8.82	6.83	8.98

Source: Sacramento Municipal Utility District, Application No. 21960, Exhibit No. 174, Files of Public Utilities Commission (San Francisco, California).

Under the zoning system rates could be reduced only by placing Sacramento in Zone 1. This the company and Commission were apparently reluctant to do, because Zone 1 has been confined to cities in the San Francisco region. The

[28] The six rate zones do not embrace the entire service area of the Pacific Gas and Electric Company. The excluded areas are those that are isolated from the principal service area of the Company, such as the County of Humboldt where different and higher classifications prevail, reflecting largely the added transmission costs involved. Total consumption and revenues in those areas represent only a trivial part of system totals.

transfer of this district to municipal ownership may be attributed in part to the rigidities of a zoning system which would not readily permit lower rates; while the high rate of return enticed the municipality to take over operations to secure the wide margin of profits for its consumers and taxpayers.

If high rates of returns as in the Sacramento case obtained in other California cities, they did not lead to a widespread movement toward municipal ownership. In the Thirties some interest in municipal ownership was expressed in Fresno and Ventura, but the movements were not successful.

Municipal Tax Action

Another possible path of action for a municipality burdened by unfair rates would be the levying of higher taxes to recoup unduly large profits earned by the electric utility in the municipality. In California the possibility of such action is almost completely eliminated by the State Constitution. Section 14, Article XIII of the Constitution provides that taxation of electric utilities is the exclusive affair of the State.

State legislation on franchise payments specifies the percentages of gross revenues that a municipality may require as annual payments for franchises. In addition, franchise agreements are subject to Commission approval when the company seeks authority from the Commission to exercise the rights and privileges of the franchise.[29] Although California legislation achieves a high degree of uniformity in franchise payments, it does permit the payment of the "costs" of obtaining the franchise by the utility to the municipality; and a series of applications were made to the Commission in 1941 and 1942 which showed great variation in "costs" of obtaining franchises from different municipalities.

There is no evidence that the payments exacted in these cases were a form of retaliation for discriminatory geographical rate differentials. The direct cause of the high charges appeared to be controversies between the cities and the companies as to whether the company had been granted the right to use the streets in the past. "It is significant that every franchise certificated by this commission during the past year, for which an unusual payment was made, contains a provision discharging the utility from liability for damages for illegal use of the streets and public highways in the past."[30]

Summary

Under the zoning system the boundaries of rate zones are political boundaries which are arbitrary from the economic standpoint. This difficulty has been met in part by the creation of Zone 5 for fringe areas which, although unincorporated, possess certain favorable urban characteristics. But the main justification for the use of political boundaries has been that they have administrative advantages that over-balance their economic disadvantages. These advantages include simplification of rate regulation by the Commission and better public relations resulting from the fact that political boundaries are more readily understood and accepted by citizens of the area than boundaries based on engineering and accounting analyses.

In the hands of the Commission the original zoning system of 1922 has tended in the direction of reflecting differences in costs of service among the communities served, rather than toward a greater

[29] Franchises may be obtained under the provisions of the Broughton Act (Stats. 1905, p. 777, as amended) or the Franchise Act of 1937 (Stats. 1937, p. 1781). For a discussion of the relative provisions and merits of these acts see Application of Southern California Edison Co., Ltd., Decision No. 37192, 45. C. R. C., 403-407, July 11, 1944.

[30] *Application of Pacific Gas and Electric Company.* Application No. 24590, 44 C. R. C. 64, March 17, 1942.

degree of uniformity of residential rates throughout the entire service area.

A high degree of rate simplicity is attainable under the zoning system, but that it is not a necessary concomitant of the zoning system is shown by the differences in the rate schedules of the two principal utilities, Pacific Gas and Electric Company and the Southern California Edison Company. The simplicity attained in the rates of the Pacific Gas and Electric Company is attributable to the combined use of zones and a block meter type rate with a service charge to cover all residential uses of electricity.

If the reactions of municipalities is a valid test, geographic discrimination has been held to a low level. There has been only one formal case in which a city charged that it was classified in an inappropriate zone. There has been no strong movement toward municipal ownership, but there is evidence that a rate of return that was higher than the system average spurred the drive for municipal ownership in Sacramento.

The State Constitution eliminates city or county tax action in retaliation for geographic rate discrimination. Cities and counties have exacted franchise payments that vary greatly in amount, but this variation has had no relation to charges of geographic rate discrimination.

The California zoning system as a method of geographic pricing represents a compromise between the extremes of strict geographic cost of service, under which each geographic unit would have its own schedule of rates based on costs of service, and strict uniformity of rates under which one schedule of rates would apply to the entire service area. The compromise has succeeded in being a reasonable one inasmuch as advantages of each extreme are retained in part. Geographic differences in costs of service are reflected in the zone differentials, and a considerable degree of uniformity and simplicity in rates has been attained.

Growth of the Railroad Network in the United States

By G. LLOYD WILSON* and ELLWOOD H. SPENCER**

THE growth of the railroads in the United States usually is traced by transportation economists and historians by decades commencing with 1830. A more significant pattern can be traced if the development is sketched according to irregular periods using as the period-marking years those which marked the ebb and flow of economic and political development rather than the zero-numbered years as dividing points. This sketch undertakes to trace railroad development and the mileage of railroad lines by fifteen periods which indicate more clearly than the decades the reciprocal relationship between railroad development and economic, political and social change in the United States. If the growth of the railroad network is traced through each significant period of major economic change in the United States, the reciprocal relationship between railroad expansion and economic development and the effect of industrial and financial expansion and over-expansion upon railroad development can be sketched with somewhat greater clarity than can be done by using the conventional method of tracing railroad growth by decades.

The growth of the railroad network is best shown if both the number of miles of rail line and the mileage of total tracks operated are counted, because of the importance of double- and multiple-track operation and of yards, sidings and other trackage facilities to the quality and quantity of railroad freight and passenger transportation services.

Using these epoch years the growth of the railroad network in the United States is summarized statistically in the accompanying table.

Year	Miles of Railroad Operated	Miles of Trackage
1827	13	....
1842	4,026	.....
1857	24,503	.....
1861	31,286	.....
1865	35,085	.....
1873	70,262	.....
1893	170,332	221,864
1903	207,187	283,722
1907	227,671	327,975
1914	252,231	387,208
1919	253,152 (Miles owned)	403,892
1921	251,176	407,531
1929	249,433	429,054
1938	236,842	411,324
1944	227,335	398,437
1948	225,149	397,203 (Estimated)
1949	225,100	397,000 (Est.)

The Pioneer Period, 1827-1842. The early construction of railroads was strongly opposed by important groups whose interests appeared to be adversely affected, including innkeepers, turnpike companies, stage coach operators, wagon carriers and canal companies. Their opposition did not prevent but did retard railway construction of the country in this period.

The opening of the Erie Canal in 1825 resulted in the formation of a powerful special interest group composed of those who benefitted from the operation of the canal, and whose welfare would be threatened by the competition of railroads. This group exerted an important

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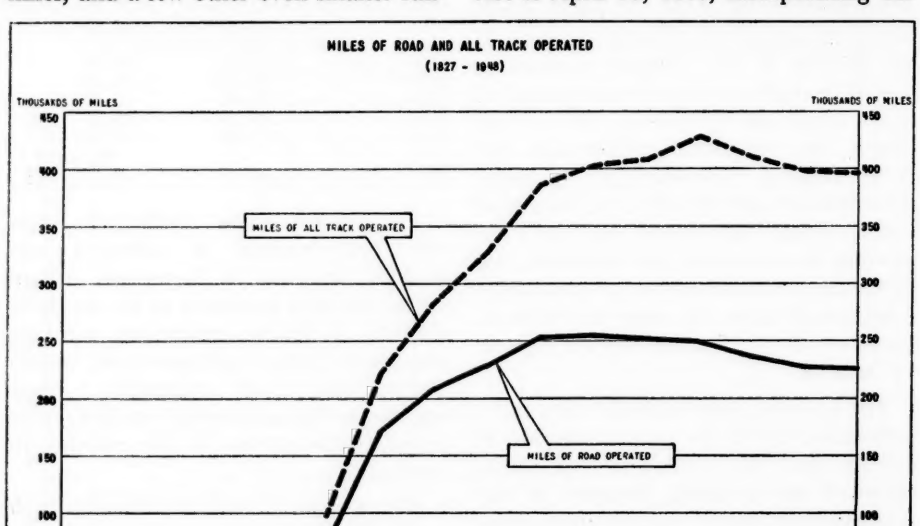
restraining influence upon railroad construction for a number of years.

The first common carrier railroad in the United States was the Baltimore and Ohio Railway Company. This company was incorporated in the state of Maryland on February 28, 1827. The "first stone" of the railroad was laid on July 4, 1828. On December 1, 1831 the line was opened from Baltimore to Frederick, Maryland and extended to Cumberland, Maryland in 1842.

The eighteen-thirties witnessed the spread of interest in railroads to all parts of the country then settled. The *American Railroad Journal* was established January 2, 1832 as a weekly magazine to cater to this new interest. The first issue listed only a few miles built; the Baltimore and Ohio, 60 miles; the Camden and Amboy, 50 miles; the Albany and Schenectady, 12 miles; the Lexington and Ohio, 75 miles, and a few other even smaller railroads. A number of applications before the New York legislature and a list of lines proposed to be built elsewhere were published in the *Journal*.

The speculative boom of the early thirties which was intensified by the reckless chartering of state banks and by large state expenditures for public improvements resulted in 1837 in the devastating panic of that year. The effects of the failures and debt repudiation which followed this financial collapse were felt for many years. Some of the states even refused to honor their debts. The economic progress of the country was temporarily halted; business generally was in the grip of a severe depression throughout 1842 and 1843.

The Period of Early Growth, 1843-1857. As the country recovered from the depression of the early eighteen-forties, interest in railroad building revived. An Act of April 13, 1846, incorporating the



Pennsylvania Railroad Company, was signed by the Governor of Pennsylvania laying the foundation for the system in existence today. Development of railroads generally was delayed by the Panic of 1847.

Early in the Spring of 1853 the impending Crimean War disturbed the financial markets of the world. War was declared October 23 of this year and this combined with a short crop of corn and a continuing drain of bullion caused another severe financial panic.

By the end of 1855 railroads had established their importance in the economic life of the country. Their permanence and ability to compete with other forms of transportation by this time was well established. The total mileage in operation in 1855 was 21,440 miles and this was increasing by more than 2,000 miles a single year. In Pennsylvania there were 1,767 miles or 1,392 miles in addition to the roads making up the Pennsylvania route. New York State had 2,733 miles; New Jersey, 475 miles; Maryland, 507 miles; and Virginia, 1,019 miles. In the West, Ohio had 2,702 miles; Indiana, 1,589 miles; and Illinois, 2,241 miles. In the North, the lines now forming the New York Central Railroad had been put together from Buffalo to Albany and there was closely connecting service from Albany to New York. The New York and Erie with its six-foot gauge construction had completed 464 miles from the Hudson River to Lake Erie at Dunkirk, New York. In the South, the Baltimore and Ohio had reached the Ohio at Wheeling and was advancing funds to the North Western Virginia for a connecting line to Parkersburg on the Ohio, toward which point the Marietta and Cincinnati was heading from the West.

All the trunk lines, or what were to become the trunk lines of the East, were looking eagerly westward. None had as yet extended their own line beyond the Ohio River or the western boundary of New York, but all were expecting a large traffic flow from the rapidly growing territory and were making every effort to attract it in their direction. The Baltimore and Ohio, as had been mentioned, was planning a connection with the Marrietta and Cincinnati at Parkersburg and another with the Central Ohio at Wheeling, both towns on the Ohio River. West of Buffalo, New York, a series of independent roads formed a continuous line to Toledo and by a circuitous route to Chicago. The direct route from Toledo to Chicago was completed in 1857.

The Period of Arrested Development, 1858-1861. Most of the country's railroads were in serious financial difficulties in 1857 and showed little improvement financially until 1859. Consolidations of railroads were resorted to in order to avoid receiverships. One consolidation in the East consisted of the Ohio and Indiana, Ohio and Pennsylvania, and Fort Wayne and Chicago Railway Company consolidating into "The Pittsburgh, Fort Wayne and Chicago Railway Company" on July 29, 1856. However, due to the stretching of its credit the company was thrown into receivership on December 7, 1859.

The Civil War Period, 1862-1865. The panic of 1857 and the political disturbances prior to the Civil War caused the miles of rail laid annually to drop to practically nothing from a total of 3,600 miles laid in 1856; and railroad construction languished until the outbreak of the Civil War. During the Civil War the trunk lines had all the traffic they could handle and railroad construction increased to provide needed facilities.

Up to the Civil War passenger and freight cars were of wooden construction, the former about 35 feet long from coupler to coupler with open platforms and a seating capacity of about 40 persons. The average freight car capacity was approximately 20,000 pounds. The first rails laid were made of iron and the increase in the weight and speed of locomotives had a very bad effect on these. In 1860, the first Bessemer steel plant was built at Sheffield, England. In the next few years railroads experimented successfully with steel rails.

Probably no other technological development did so much to increase the capacity of the railroad and reduce their operating costs as this substitution of steel for iron rails. Before it occurred, the permissible wheel loads of locomotives and cars were definitely limited by the distortion and wear caused in the iron rails and thus the weight and speed of trains were also limited.

The Post Civil War Period, 1866-1873. The year 1866 marked a resumption of rapid railroad construction. The fever of expansion which possessed the railroad industry had lasting effects in some regions. Progress was especially rapid in the West. The first transcontinental railway, the joint Central Pacific-Union Pacific, was completed in 1869.

In the East, the anthracite coal industry which had had a modest beginning about 1820, had achieved an annual production of 13,000,000 tons by 1867. The early movement of anthracite coal to market had been by barges and boats via canals and navigable streams. Some of the early railroads were built to connect the mines with these facilities, and most, if not all, of these lines were dependent upon the transporting of coal for their revenues. Among these were the Philadelphia and Reading; the Delaware and Hudson; the Lehigh Valley; the Central of New Jersey and the Lackawanna. This expansion of the railroad industry resulted in 70,000 miles of road in the United States in 1873.

Contrary to pessimistic expectation, revenues did not drop off greatly at the end of the Civil War. The movement of troops and government freight naturally stopped, but the East-West lines continued to carry the traffic which had been diverted to them from other channels at the beginning of the war. Strangely enough, all through the war period the westward migration continued.

The panic of 1873 came in the fall of the year and was marked by a rapid falling off in business activity and in railroad earnings. The depression was due partly to the construction of railroads at a pace far in excess of the economic needs of the country, to the overcapitalization of many railroads, and to the over-expansion of credit. The end of the postwar boom found some railroads over-expanded with respect to their investments, over-built in respect to traffic and over-strained with respect to their obligations. The expansions of the railroad network again was retarded for a few years.

The Period of Expansion and Extension, 1874-1893. The five years from 1874 to 1879 were marked by a protracted depression. The cheap money of the late sixties had led to over-expansion and over-building of industry in all directions. The South was still prostrated from the effects of the war; its capital resources had been dissipated and it was still suffering under great political handicaps so that the immediate prospects of a free movement between it and the North were very poor.

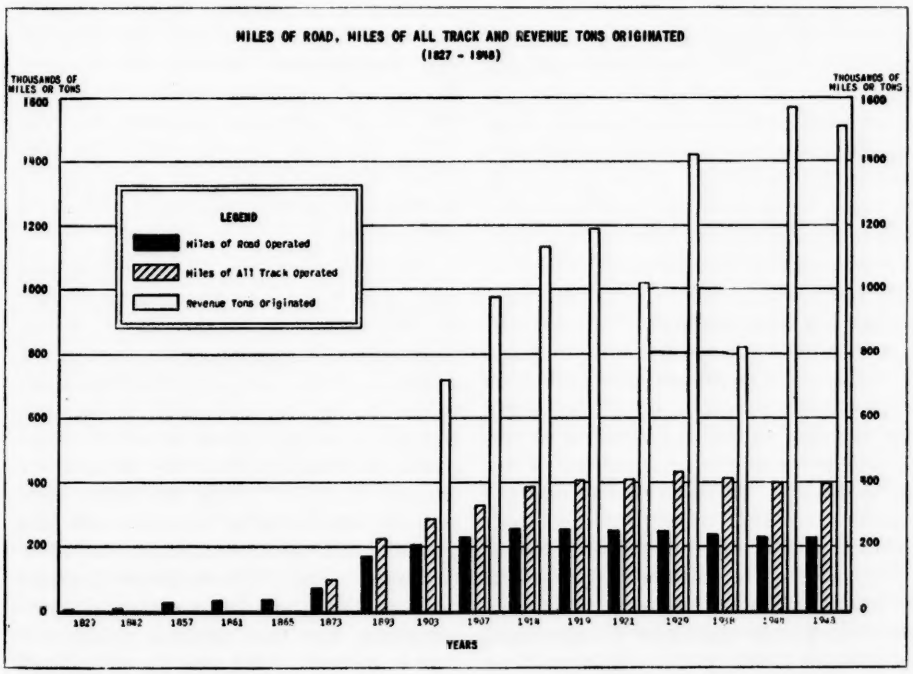
The principal trunk line railroads had enlarged and improved their physical plants to the point where they had capacity considerably in excess of that re-

quired by the traffic of 1874. Then too, toward the end of 1874, the Baltimore and Ohio completed its line to Chicago. This intensified the competitive situation and a short time afterwards a new route, the Grand Trunk, was opened from the West to Boston. All of these factors and the rivalry of the Eastern seaboard cities paved the way for a period of rate cutting that almost wrecked the railroad industry. There was a time in 1875 when the westbound rates from Boston to Chicago were 50 percent below those from New York to Chicago. A rate war in 1876 caused passenger fares from Boston to Chicago to drop from $25.85 to $14.00 within six weeks. The freight rate on agricultural products from Chicago to New York fell from 50 cents to 18 cents per bushel. For six months the trunk lines hauled through freight east at the rate of 3.5 mills per ton-mile and west for 2.8 mills per ton-mile.[1]

Prior to the passage of the Interstate Commerce Act in 1887, there was no regulation of interstate railroad rates and traffic. Railroads could and did make such rates as they chose, and they could and did alter them at will to meet competition as they found it. All traffic which was competitive, particularly the long haul East-West traffic, was subject to drastic rate cutting in times of economic distress or intense competition. Once a rate was cut the competitors had to meet it or else sacrifice the business. Since they had to provide service in any case, it was better to accept unremunerative business if it paid at least a part of the cost of operation.

The supplemental Act of 1888 to regulate interstate commerce was enacted to remedy the situation, but the Interstate Commerce Commission's power was

[1] Charles Francis Adams, *Railroads, Their Origins and Problems* (New York: Putnam, 1888), p. 166.



inadequate to enforce rate regulation effectively and it had no power to make rates. After the depression of 1873 railroad construction was again resumed. From 1874 to 1893 approximately 120,000 miles of rail were laid and the railroad mileage in the United States increased to 176,000 miles in 1893.

Between Panics, 1894-1903. The year 1893 was marked by another financial panic which depressed business for the subsequent five years. In 1896 business was again affected by a depression touched off by the "Free Silver" scare which threatened the gold standard. Freight rates fell to their all-time low. These conditions were responsible for there being only about 30,000 miles of road constructed from 1894 to 1903. The Spanish-American War of 1898 was of such short duration that it had little effect in stimulating railroad construction although it did increase railroad traffic appreciably.

The Period of Reorganization and Rivalry, 1904-1907. The Panic of 1903 precipitated a number of railroad receiverships and reorganizations which were consummated during the period 1904-1907. During this period the railroad network increased by approximately 20,000 miles of line and by 45,000 miles of trackage.

The Pre-World War I Period, 1908-1914. Railroad recovery and construction proceeded at a slow pace from 1908 to 1913. The year 1913 saw a substantial increase in traffic and revenues over previous years due to the prospects of World War I and the stimulation of industries in the United States in the rearmament of the Allied Powers. However, wages and expenses increased more rapidly than revenues so that net income results were unfavorable. The railroads appeared to be destined to suffer financial difficulties until this was dissipated by the increased demand for transportation as a result of the outbreak of war. Railroad mileage increased by 25,000 miles and railroad trackage by 60,000 miles chiefly as a result of expansion in the West.

The World War I Period, 1915-1919. Allied purchases stimulated industry and freight traffic after the middle of 1915. Railroad traffic continued to improve during the whole period. The Adamson Act of 1916 caused increased operating expenses although the growing congestion of facilities by war traffic was probably the principal cause of increased railroad costs. The entry of the United States into World War I on April 6, 1917, threw an additional burden of traffic on the railroads, particularly upon the Eastern lines. This overload was almost too great for their capacity and it seriously impaired operating efficiency. The scarcity and poor condition of motive power constituted a severe handicap and the priority of war orders made it impossible to augment the supply. The Government through the United States Railroad Administration took control of the railroads on December 28, 1917. The first five years after the outbreak of the war saw only a negligible increase in railroad mileage of 840 miles and a small increase in trackage.

The Post-World War II Period of Adjustment, 1920-1921. The Transportation Act of 1920 provided for the return of the railroads to their corporate owners on March 1, 1920. In order to protect the roads during the transition period the Act extended the period of federal compensation for another six months to August 31, 1920. Thus the roads were guaranteed an income equal to one-half year's compensation, regardless of their earnings. The 1920 corporate income account therefore shows standard compensation for two months, guarantee period income for six months and actual

operating results for the remaining four months.

A large deficit in net railway operating income was incurred in the first eight months of 1920, partly attributable to the severe winter weather of the early months, partly to the "outlaw" switchman's strike in April, but primarily to the serious discrepancy between freight rates and wages. Wages had been further augmented by a 21-percent wage increase made effective as of May 1, 1920. Substantial rate increases were granted by the Interstate Commerce Commission just before the guarantee period ended and net railway operating income for the final four months was $11,965,000 as compared to the year's overall deficit of over $62,000,000.

The year 1921 was one of depression and labor troubles. The postwar boom reached its peak about the middle of 1920 and in the closing months of the year a series of readjustments in prices, wages and conditions which had carried over from the war years began. By January of 1921 there were 300,000 idle freight cars compared to a shortage a year earlier, and the surplus increased in February. A comparison of revenues is difficult, because of the rate increases, but the ton-miles of 1921 were 23 percent below that of 1920 and passenger miles decreased 14 percent. Railroad mileage declined for the first time in history and railroad trackage increased by less than 3,500 miles between the close of 1919 and 1921.

The Period of Prosperity, 1922-1929. Business conditions improved in the latter part of 1921 and even though freight rates were reduced in 1922, revenues and net income increased. The year 1923 brought a return of prosperity which, with minor recessions, was to continue until 1929.

In 1924 prices receded moderately, business receding to the level of 1922. Following 1924 came four years of high activity in business enterprise. Measured by ton-miles and by the number of cars loaded, each of these four years exceeded any year prior to 1925. A decline of more than 10 percent in the volume of passenger traffic during these years makes the composite picture less favorable. The years after 1925 were marked also by the growing competition of highway vehicles of all kinds; automobiles, buses, and trucks. This competition made itself felt before 1929 and was greatly accentuated in the lean years which followed. Each year after 1920, excepting 1928 and 1929, the number of miles of railroad abandoned exceeded new construction, the total mileage in 1929 being 249,000 as compared with 254,000 miles in 1916 and 242,000 in 1920.

The Depression Years, 1930-1938. The pronounced and protracted drop in business generally and in railroad revenues particularly which began before the end of 1929, put an effective stop to further improvements in operating ratios and net operating income. Offsetting this was the lack of sufficient operating revenues which brought many formerly profitable roads into receivership in the following few years.

In spite of declining traffic, railroad operating performance continued to improve. The average trainload fell off because it was impossible to take freight trains out of service to the extent of the decline in traffic. The public convenience demanded a certain minimum of service and the increasing activities of the then unregulated truck operators made competition more severe, both as to rates and services.

The continuing decline in railroad passenger travel was a discordant note in this period. The period beginning

in 1934 and lasting until the beginning of World War II was marked by numerous efforts on the part of the railroads to make passenger travel more attractive. The two most obvious ways were by increasing the speed of the service and the comfort of the passenger en route. With respect to passenger comfort the major development of the period was air-conditioning of the cars. Another result of these efforts was the "streamline train" which made its appearance in 1934. Railroad mileage in this period declined by 13,000 miles and trackage also decreased by nearly 18,000 miles, due to abandonment and to realignment of railroads.

World War II Period, 1939-1944. When war began in Europe, 1939, railroad management was quick to anticipate the demands which would be made on railroads of the United States for the transportation of material for the Allies as well as for the probable speeding up of American defense activities. While freight traffic more than doubled, the growth in passenger traffic was much greater and more difficult to cope with. After the outbreak of war, troop movements accounted for a large part of it, and these occurred, often unexpectedly, in solid trains, or in extra cars attached to already burdened regular trains, or in the cars of the regular train. When troop trains were moving, other traffic had to be sidetracked if it threatened to interfere with the movement. Passengers carried one mile in 1944 reached the astonishing figure of 13 billion, more than four times the total of 1939 and 88 percent greater than the figure for 1920, which before the war had been the all-time high.

Total carloadings in 1944 aggregated 43,441,266 cars, an increase of more than one million loads over 1943, or 2.4 percent. Loadings of carload traffic showed an increase of 1.8 percent, while loadings of LCL traffic increased 6.8 percent.

Revenue ton-miles of freight amounted to 738 billion in 1944, an increase over 1943 of 1.4 percent. Ton-miles handled in 1944 were one and two-thirds times the number of ton-miles handled in 1929, one and four-fifths times that of 1918 and more than twice as great as 1939. Railroad mileage, however, shrank by over 9,500 miles and railroad trackage declined by 13,000 miles as a result of abandonment and of rebuilding of lines over shorter routes.

The Post War Period, 1945-1950. The end of the war in 1945 was responsible for the net result for this year showing a decline of 3.12 percent in freight carloadings, a decrease of 7.7 percent in ton miles and a drop of 4 percent in passenger travel. Total carloadings of revenue freight in 1945 aggregated 41,901,051 cars, a decrease of 1,507,244 cars, or 3.5 percent below 1944. Tons of revenue freight carried one mile approximated 681 billion in 1945, a decline of 7.7 percent below 1944. Seventy-five railroad companies, operating 39,858 miles of road, were in the hands of receivers and trustees at the end of 1945—one less than on December 31, 1944.

Transition from war to normal peacetime activity is usually characterized by lowered levels of industrial output while industry reconverts. This period was no exception and loadings of revenue freight decreased by 576,915 cars to a total of 41,341,205 for the year 1946. Carload traffic declined 3.8 percent, while LCL shipments showed an increase of 14.6 percent. Ton-miles of freight in 1946 were 13.1 percent below 1945 and 19.7 percent below 1944, or 591,954,432,000 for the year. Transition difficulties continued in 1947 but loadings of revenue freight totaled 44,503,349 cars, an in-

crease of more than 3 million cars over 1946, or 7.6 percent. Revenue ton-miles increased 10.6 percent over 1946 to a total of 654,691,429,000 ton-miles.

Carloadings, ton-miles and passenger miles were at comparatively high levels in 1948, although below the totals attained in 1947. Passenger traffic in particular declined, being 10.3 percent lower than the 1947 total. Loadings of revenue freight in 1948 totaled 42,834,000 cars, a decrease of more than one and one-half million cars under 1947 or 3.7 percent. The aggregate of 639 billion ton-miles in 1948 was only 2.5 percent less than the record peacetime level of 1947 and 13.4 percent below the all time record established in 1944, a war year. At the end of 1948, 43 railroad companies operated 13,285 miles of road were in the hands of receivers and trustees. This was nine fewer than at the end of 1947, when 22,750 miles were similarly situated, and 32 companies and 17,108 miles less than 1944.

In this period rapid increases in wages and costs of materials and supplies as a result of post-war inflation caused increases in freight rates and passenger fares which reduced substantially the volume of railroad traffic by diverting traffic to competitive means of transportation and by reducing the total volume of movement. This diversion and the consequent decline in gross revenues unaccompanied by corresponding reductions in wage and material costs, reduced railway net operating income to dangerously low levels on many railroads. The railroad mileage and trackage in this incomplete period continued to decline to approximately 225,800 miles of line and 397,000 miles of trackage.

Farm Woodland Utilization in the Douglas-fir Region

By KARL S. LANDSTROM†

IN the Douglas-fir region, which lies in Oregon and Washington west of the Cascade Mountains, forestry is an integral part of agriculture. More than half of the farms in the region contain wooded land, and a fifth of the privately-owned commercial forest land either is owned by farmers or is operated in connection with farming. With the gradual disappearance of accessible virgin timber stands, second-growth forests in farming areas are likely to become increasingly important as sources of saw timber, poles, posts, fuelwood, and other forest products. The potential contribution of farm woodlands in the Douglas-fir region to forest values and forest influences justifies close public attention to the use and management of this resource.

The recent Forest Service reappraisal of the management status of forest lands throughout the United States has indicated once again that a great many owners of small forest holdings are inadequately motivated to protect and perpetuate productive timber stands. The Forest Service found that timber was being managed intensively on less than 1 percent of the farm woodlands in the Pacific Northwest, with 23 percent under extensive management (at least fair cutting practices and fair fire protection), 44 percent without management (cutting practices or fire protection poor or worse), and 32 percent not operated for timber products.[1]

The failure of farmers to manage farm woodlands for sustained production of timber makes it impossible for farm woodlands to provide maximum watershed protection and contribution to farm income. A continuing problem of government in relation to farm woodlands is to develop and adjust action in a way that will insure the protection and perpetuation of farm timber stands and the realization of optimum forest values at low cost and with least interference with private initiative.

Farm Woodland Resources

The outstanding features of the Douglas-fir region in relation to farm forestry are: (1) a considerable percentage of farm land in forests, (2) a favorable environment for forest growth, (3) markets for forest products created by large and diverse wood-using industries, and (4) a large farming population with diverse types of farming and marked seasonality of crop production activities.

Farm woodlands are the areas of wooded growth that are integral parts of the land used primarily for farming. From an areal standpoint, the farm forests are woods located within general areas used primarily for agriculture. In the Douglas-fir region the farm woodlands consist both of scattered wooded tracts in cropland and pasture areas and blocks of timber in the "forest fringe" which borders the cropland and pasture zones. The "forest fringe" has been the scene of periodic shifts in ownership and utilization. This has resulted in destructive cutting, repeated burning, and retarded forest reproduction and growth.

† Formerly Agricultural Economist, Bureau of Agricultural Economics, U. S. Department of Agriculture. The opinions expressed do not necessarily reflect the views of the Deparment of Agriculture.

[1] U. S. Forest Service, *The Management Status of Forest Lands in the United States, Report 3 from a Reappraisal of the Forest Situation.* Washington, D. C., 1946.

The main species of forest trees growing on farms in Western Washington are Douglas-fir, western hemlock, red alder, western redcedar, black cottonwood, bigleaf maple, and Sitka spruce. In Western Oregon, Douglas-fir, white fir, western hemlock, red alder, and Oregon white oak are major species. Practically all of the forest growth on farm woodlands consists of native species growing from natural seeding. Under favorable conditions cut-over or abandoned lands revert quickly to brush, followed by second-growth timber. Very few artificial seedings or plantings have been made by farmers except for specialized uses such as windbreaks.

Under the Census definition of farm woodlands—wooded land actually within the boundaries of operating farms—the area of farm woodlands in the Douglas-fir region in 1945 was 2.6 million acres, slightly more than a third of all land in farms. The Census acreage of farm woodlands has increased slowly over the past 60 years, corresponding closely to the rate of increase in the acreage of all farm land. The physical environment in the agricultural zones is such that forest growth will probably continue indefinitely to cover a considerable fraction of the farm land.

Recent surveys of the condition and volume of farm timber stands in two counties of the Douglas-fir region have indicated that most farm woods consist of commercially valuable forest types with adequate stocking and with soil and climatic sites suited to permanent timber production.[2] Most farm woodlands can be pastured, but the pasturing of wooded areas may conflict with regeneration of forest growth after fire or cutting. The restriction of pasture use to improved open pasture land having higher carrying capacity is worthy of consideration in the farm plan if the gain in forest growth on land restricted to timber production is at least sufficient to offset the loss in forage use resulting from such restriction.

The greatest natural hazard to forest growth in the Douglas-fir region is fire. The fire problem recurs annually in the summer and early fall. It has been observed that the potential threat of fire can be reduced materially by improving the management of timber stands. For example, partial or selective cutting as would be carried out under a timber-management program creates little burnable slash and avoids the severe fire hazard caused by clean cutting. Forest-fire insurance is not available to the forest land owner. The fire hazard is the greatest obstacle to an adequate credit program for private forestry.

Farm Woodland Uses

The major productive uses of farm woodlands in farm businesses are for forage and stumpage. Watershed protection, recreation, wildlife habitat, and production of minor forest products such as nuts and berries are usually incidental to the major uses. From the public standpoint, however, the importance of farm woodlands for watershed protection and other forest influences often exceeds their importance for forage and stumpage.

Wooded pastures occupy a larger area in the region than do open pastures, but the carrying capacity of the wooded pastures averages much lower. More than half of the pasture lands in the region are wooded, and more than two-thirds of the farm woodlands are pastured. The nonuse of woodlands for pasture in most cases results either from low grazing capacity or from an absence

[2] Washington State Planning Council, *Forest Resources of Snohomish County*, Olympia, 1941; and Walter M. Fergerson, *Farm Forestry in Clackamas County, Oregon*, Ore. Agr. Ext. Serv. Bul. 662, Corvallis. 1946.

of grazing-type animals in the farm organization. Seldom are livestock excluded to protect forest growth from grazing damage.

Only 4 percent of the farms in the region produced forest products for sale in 1944, when demand for forest products was unusually high. In that year only 1 percent of the farms specialized in the sale of forest products. However, many additional farms made use of timber stands as a source of wood products needed on the farm. All farms require wood products. Logs and poles can be used in building dwellings, barns, sheds, culverts, bridges, and other structures. The normal lumber requirement per farm in the Pacific Northwest for farm building, repair, and replacement has been estimated by the Forest Service as 834 board feet per year.[3]

In 1929 the average usage of fuel wood cut on farms having that practice was 17 cords in Western Washington and 22 cords in Western Oregon. The cutting of fuel wood on farms was stimulated during World War II by steady demand, but the pressure of other farm work and off-farm employment often prevented farmers from working in the woods.

More than 2 million posts are needed annually within the Douglas-fir region as replacements for worn-out farm fences. Twenty years ago nearly all fence posts were cut from western redcedar, but now Douglas-fir and other species having less natural durability must be substituted. Unless treated with preservative, Douglas-fir posts last only 6 to 8 years.

Farm production of saw logs on a commercial scale has become more feasible with the introduction of newer light logging equipment such as tractors and bulldozers. However, the number of farmers who are logging their own timber stands in the Douglas-fir region is estimated at less than 2,000. In 1929 only 1,274 farms were producing saw logs, and their production amounted to only 1 percent of the total production of saw logs in Western Washington, and 5 percent in Western Oregon. Data on farm production of logs and other forest products have not been included in the Census of Agriculture since 1930, so comparative figures for later years are not available. However, it is known that most farmers with saw timber to dispose of follow the practice of selling it to commercial loggers. Loggers who buy stumpage from forest owners are urged by the Society of American Foresters to apply sound silvicultural practices in operations on these properties.[4]

A recent development in the utilization of farm timber stands has been custom sawmilling on the farmer's own land. A small portable mill is used for this purpose. This operation converts into lumber logs which otherwise would go into lower uses, and it saves transportation, provides low-cost building material on the farm, and stimulates farmer interest in forest conservation.

Forestry as a Type of Farming

Attempts have been made by settlers over a long period to utilize the hilly cut-over areas in the Douglas-fir region for systems of farming patterned after the agriculture of the more productive valley areas. The result has been a maladjusted land use which has failed not only to provide income for adequate farm family living, but also to develop optimum resource use and conservation from a public standpoint. A potential adjustment of farming systems in these areas toward greater emphasis on forest products may

[3] Frank J. Hallauer, *Lumber Requirements on the Farm, A Progress Report of the Forest Survey*, U. S. Forest Service Washington, D. C., 1942.

[4] Joint Committee on Forestry of the National Research Council and the Society of American Foresters, *Problems and Progress of Forestry in the United States*, Washington, D. C., 1947.

offer one way to improve farm efficiency while at the same time the management status of the forest land is improved.

Growing and harvesting timber crops as a continuing major enterprise is considered by some competent observers to be a system of farming that is adaptable to the Douglas-fir region.[5] Up to the present, however, forestry as a type of farming has been infrequent even on a temporary exploitative basis.

Farms which in the current year derive major income from the sale of forest products have been reported in small numbers in the Douglas-fir region in each Census, beginning with the first type-of-farming classification in 1930. For Census purposes a forest-products farm is defined as one on which products are produced primarily for sale and on which the value of forest products sold makes up more than half of the total value of all farm products sold. Only 839 forest-products farms were reported in the region in the 1945 Census of Agriculture. This was less than 1 percent of all farms. The forest-products farms were widely distributed within the region, with at least one such farm in each of the 38 counties save one.

Some of the farms classified as forest-products farms in a given Census year probably are specializing in forest products in the current year only as a temporary situation, for example, as a land-clearing phase of new farm development. Some probably are crop or livestock farms whose timber stands have become mature and are being liquidated in the current year. But some of these forest-products farms involve a relatively permanent major forest enterprise. With these heterogeneities in status in mind, the following data, based on an unpublished tabulation from 1945 Census schedules prepared by the Bureau of the Census, are suggestive of the economic causes that have limited the development of forest farming in the Douglas-fir region up to the present time. The tabulation consists of 293 farms selected in a systematic county-unit sample of the 839 forest-products farms in the region as classified in the 1945 Census of Agriculture.

One major problem revealed by the Census tabulation is instability of land ownership. Nine-tenths of the sample farms were operated by full owners. Nearly all of the owners were living on the farm. Nevertheless, because of frequent shifting of ownership, a favorable tenure relationship to the land was not present on many of the farms. Almost half of the operators had operated their current farm less than 4 years; only 28 percent had operated their current farm 10 years or longer. This reflects a turnover that is rapid in relation to the slow rate of growth of the timber crop. A short period of operatorship does not provide an opportunity for the operator to institute or carry out long-range forest-management plans. A more stable land tenure is needed if substantial progress is to be made within the framework of private ownership toward utilizing the full productive capacity of farm forest lands.

A second major problem revealed by the Census tabulation is a prevailing inadequacy of basic land resources per farm to support full-time forest-farming operations. Estimates have been made as to the basic land requirements of a farm which would have a continuously operated major forest-products enterprise under conditions as they exist within the Douglas-fir region. A representative estimate is that 400 acres would be required for full time operation in second-

[5] For example, the adaptability of forest farming to the Pacific Northwest was suggested by Burt P. Kirkland, "The Place of Forests in the Farm Economy," *Yearbook of Agriculture*, U. S. Department of Agriculture, 1940, pp. 533-550.

growth areas.[6] By comparison, the average size of the 293 sample farms was 188 acres of all farm land. This reflects the small scale of many of the operations.

The Census tabulation reveals that the gross value of production on the sample farms in 1944 varied significantly in relation to size of farm in acres:

Average Value of All Production per Farm	*Number of Farms*	*Average Acres of All Land per Farm*
Below $600	80	74
$600 to $1,499	101	141
$1,500 to $3,999	77	242
$4,000 or over	35	461

Keeping in mind that some of the farms included in this tabulation were cutting timber beyond current growth rates during the Census year, this value-of-production to size-of-farm relationship lends support to the estimate that a full-time continuously operated forest-products farm should have at least 400 acres of land of good productivity.

A third major problem existing on a majority of the forest-products farms is inadequacy of farm income to attract efficient operators or to pay for the capital assets and equipment needed to develop an efficient enterprise.

Of the 293 sample forest-products farms, three-fifths reported gross production valued at less than $1,500 each in 1944. Only one out of eight produced $4,000 or more in value of products for the year. This smallness of scale was due primarily to smallness of capital resources per farm, including land, timber, equipment, and livestock. Only a third of the farmers owned tractors. The group of farms producing under $600 gross per farm for the year averaged only 5 head of cattle, compared with 23 head for the group producing $4,000 and over. In keeping with the predominant smallness of scale, approximately a third of the operators worked off the farm 100 days or more during the year. All of the farm labor, including the forestry work performed by farm labor, was done by the farmer and family on three-fourths of the farms.

The importance of pasture in the farm organization is indicated by the fact that in 1944 three-fourths of the farm land classed as woodland was grazed by livestock. The average land use on the sample farms was 22 acres of cropland, 80 acres of woodland pastured, 40 acres of woodland not pastured, 38 acres of open land pastured, and 8 acres of all other land. Three-fifths of the cropland was in harvested crops. The main crops in order of frequency were tame hay, orchards and vineyards, small grains, wild hay, and berries. Crops were harvested on nearly all of the larger farms, but only on about half of the smaller farms. Dairy and poultry enterprises each were reported on approximately three-fourths of the sample farms. Hogs were reported on a fourth and sheep and goats each on a sixth of the farms.

As may be judged from the above information, forest farming is rare at present in the Douglas-fir region. Even more rare is a forest farm on a permanent basis and at a scale of operations which would test the practicability of a type of farming based on a major forest enterprise using modern machine-logging methods.

Readjustment of Farm Woodland Uses

In looking ahead to coming readjustments in farming in the Douglas-fir region, certain changes seem fairly certain. These include (1) increased availability and use of mechanical power, (2) continued adaptation of farm machines for use with mechanical power, and (3) more rapid adoption of conservation

[6] Floyd L. Otter, "Profit for Farmers in Washington's Second-growth Forests," *Soil Conservation*, April 1939, pp. 233-236, 238.

practices, including concentration of crop and forage production on the more productive lands and the retirement of the less productive lands to forest cover. Some of the oldest and best of the second-growth stands in the Douglas-fir region at present are located within the farm-woodland zone. This, together with a favorable long-range market outlook for forest products, and the influence of the farming readjustments listed above, suggests that forest products may be produced in increasing volume on farms over a period of years. With continued high employment and a full market for forest products, the economic situation would be favorable for progress toward farm woodland conservation and development goals. Farm forestry, which has wide adaptability to physical land conditions, offers help in solving problems of land-use readjustment in the region.

The experience with large-scale forest farming has been too fragmentary to indicate the future importance of this type of farming. It appears, however, that small-scale forest enterprises will take on increasing importance on many farms. It is probable that part-time forest farming, combined with off-farm work in commercial forest industries or farm labor in other types of farming, may become more frequent. Part-time farming is better suited than full-time farming to situations in which the farm land base is limited, either as to acreage or as to productivity per acre. A forest enterprise is especially attractive to the part-time farmer, not only as an operation that makes use of low-productivity land, but also one that may be fitted flexibly into the program of working seasons, days, and hours established by the off-farm work. There is a distinct need in the Douglas-fir region for occupations or industries which would help to relieve annual unemployment caused by the shutdown of commercial logging operations at the higher elevations during the winter.

A major obstacle to conservation in the management of farm timber stands has been a widespread attitude on the part of farmers that areas in forest cover are merely awaiting clearing for crops or pasture, being unsuited in the meanwhile to productive use. Other obstacles to conservation are (1) lack of continuity in ownership or control of the land, (2) instability of the market for forest products, (3) lack of equipment on farms for efficient logging operations, (4) lack of marketing information, and (5) lack of technical forestry information and experience. There is no reason to believe that these obstacles are insurmountable. Progress in overcoming obstacles such as these has been made rapidly in recent years by farmers themselves with the aid of the federal and state governments and of organizations representing the forest industries.

Government Action in Relation to Farm Woodlands

Depletion and destruction of farm timber stands, like flood damage and soil erosion, are matters of public concern. The large area of watershed land involved and the importance of maintaining a perpetual timber supply are such that government action to insure desired objectives in the use and management of farm woodlands is justified.

Perhaps the greatest single contribution that government could make toward conservation of the farm woodland resource would be to improve the level and stability of the general economy. The heart of the forest conservation problem is the conflict between the present and the future forest values. The maintenance of stable high-level production and consumption nationally would per-

mit forest landowners and credit agencies to give greater relative weight to future values in establishing financial and credit policies for private forest lands.

Among the present major federal and cooperative federal-state programs directly related to improving farm woodland use and management are (1) the farm forestry extension program, (2) the farm forestry technical aid program, (3) the forestry phases of the soil conservation program, (4) the forestry phases of the agricultural conservation program, and (5) the tree planting program. Farm forestry is aided also by the fire protection program, the forest disease and insect protection program, and the general forest research and service programs of the federal and state governments. There are various additional state and private organizational programs which also aid in farm forest conservation. One privately sponsored program that has had marked success in the Douglas-fir region is the "tree-farm" movement, organized by the wood-using industries.

Farm forestry extension work was originally authorized by the Clarke-McNary Law of 1924. The work is administered by the Federal-State Cooperative Agricultural Extension Service. State extension foresters in Oregon and Washington act as project leaders for state-wide farm forestry extension programs carried to farm people by county agricultural agents.

An enlargement of the extension program was authorized by the Norris-Doxey Act of 1937. Technical aid to farmers in woodland management is given to farmers under this authorization in several Douglas-fir region counties by county farm foresters working under the supervision of the state forestry departments and the Forest Service.

Technical aid in farm forestry is provided in soil conservation districts as a part of the farm conservation program administered by the Soil Conservation Service. Under this program forestry is included as a part of a complete farm plan for the conservation and efficient use of the farm land resources.

The agricultural conservation program, administered by the Production and Marketing Administration, has offered benefit payments to farmers who qualify by performing specified forest improvements practices such as forest-tree planting or contruction of firebreaks. However, the participation of farmers in this phase of the program has been negligible in the Douglas-fir region.

Federal cooperation with the states in growing and distributing forest-tree seedlings at low cost was authorized under the Clarke-McNary Law and the Norris Doxey Act. The Forest Service cooperates with the state forestry departments and the land-grant colleges in growing and distributing free seedlings.

The program of federally-sponsored agricultural credit has not been used in the Douglas-fir region specifically to aid in promoting improved farm woodland use and forest management. Under the rules of the Federal Land Bank System, only forest properties for which detailed practical plans of operation have been submitted are eligible for Land Bank Loans. It is not the practice of the Federal Land Banks to consider timber as such in appraising farm real estate in connection with applications for Federal Land Bank or Land Bank Commissioner loans.

Both Oregon and Washington have reforestation tax laws. These laws provide for the special assessment, levy, and collection of property taxes on young second-growth timber land in the interests of promoting reforestation and timber conservation. Under these laws, lands may be classified as reforestation

land either upon request of the landowner or upon action by the state or county after due notice and hearing. Up to the present, the acreage of farm woodlands classified as reforestation land has been small in both states.

A Washington law enacted in 1941 changed the status of forest crops from real property to personal property for purposes of taxation, and provided for a progressively increasing deferral of property tax levies until the forest crop is harvested. In Oregon timber continues to be the only growing crop that is considered part of the realty for purposes of administering the ad valorem tax.

Both Oregon and Washington have forest practice laws looking toward the reserving of seed trees and other practices necessary for the restocking of lands following logging. These laws apply to farm lands as well as to lands not in farms.

Numerous proposals for changes in government programs affecting farm forestry and private forestry in general have been made in recognition of a need for greater speed in achieving conservation and full utilization of private forest holdings. These proposals, as to severity of government control envisaged, have ranged from outright government acquisition to mere shifting of emphasis in education and extension.

Federal and state land managing agencies have been acquiring privately-owned forest land in the Douglas-fir region for many years by means of outright purchase, tax reversion, gift, and exchange. The net increase in the acreage of publicly-owned commercial forest land in the region from 1933 to 1945 was 1.2 million acres, an increase of 10 percent. The chief objections usually raised against widespread public land acquisition are (1) the cost to taxpayers, (2) the reduction in land area available for private ownership and control, and (3) the reduction in the property tax base. The latter objection has been at least partially overcome by the provision in acquisition programs for making payments in lieu of taxes to the local tax collecting authorities.

Those who favor more intensive government regulation of forestry on private land feel that cooperative or voluntary forest conservation is not developing rapidly enough to safeguard the public interest. The Forest Service is currently recommending a fully-rounded government program in relation to private forestry, including (1) extension of the Norris-Doxey technical aid program to every forest county, (2) strengthening the educational and demonstrational work in forestry, (3) accelerated forest-tree planting, (4) a forest insurance system, (5) a forest credit system, (6) encouragement of forest cooperatives, (7) federal-state control of cutting practices, and (8) expansion of the acreage in public forests.[7]

A basic need in relation to farm woodlands is additional research. Information and advice on farm woodland use and farm forest management cannot be given to farmers with the same reliability as information and advice on other land use and farm management problems, because research on these topics has been outstandingly deficient. Phases of agricultural and forestry research related to farm forestry should be strengthened as a basic means of improving the utilization and conservation of farm woodlands in this and other regions.

[7] U. S. Forest Service, *Forests and National Prosperity, A Reappraisal of the Forest Situation in the United States*, U. S. Dept. of Agr. Misc. Pub. 668, 1948.

Methods and Objectives of Scientific Agrarian Policy*

By CONSTANTIN VON DIETZE†

Translator's Preface

Although *agrarpolitik*, the subject of this paper, can properly be translated as *agrarian policy*, the translation fails to convey the full sense of the term. There is no field of specialization in American practice that conforms to the field of *agrarpolitik* as it has developed in Europe, principally in the German-speaking countries. *Agrarpolitik* includes the fields of land tenure policy, broadly defined, but it also includes much more. Farm labor problems, land settlement, family farm policy, agricultural credit, farm price policies, trade and tariff regulation, agricultural-vocational organizations, agricultural education—all are more or less loosely included in the field of of *agrarpolitik*.

This field of specialization has grown out of a view point and a methodology that are different from those that have conditioned the growth of agricultural economics in the United States. In general terms, *agrarpolitik* has been more concerned with the policies of the state—with the art of government—than with the problems of the individual farm. It has not evolved primarily out of an academic and research climate dominated by the "agricultural college" view point. Had the line of development that began with Richard T. Ely, T. N. Carver, and others, and that is represented more recently by E. G. Nourse, continued in the United States it might have led to the emergence of a field of study more nearly approximating the *agrarpolitik* of central Europe.

Despite these different channels of growth the problems that are discussed in the following pages will seem familiar to many readers. Conflicts between proponents of the inductive and deductive approaches, the quarrel between historical schools, the divergent points of emphasis in farm management and land tenure research—these and other aspects of the European scene have not been foreign to the growth of Agricultural Economics in the United States.—Philip M. Raup, Assistant Professor of Agricultural Economics, University of Wisconsin. (*Translator*)

MY aim is not only to acquaint you with the specialized discipline within my field of political economy to which I have devoted most of my works. More than that, I wish to contribute toward clarifying the proper relationship among specialized studies, professional sciences, and the *universitas litterarum*. Like all our sciences, agrarian policy (*agrarpolitik*) as a special course of study thrives and suffers from specialization: it thrives on the indispensable performances made possible by specialization, but suffers at the same time from isolated confinement, likewise caused by specialization. Is it not true that even theology and philosophy, which at one time vigorously permeated all branches of science, have become esoteric, special sciences? Efforts of generations are required in order equitably to do justice as well to indispensable specialization as to the comprehensive tasks of a true University.

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* *Wege und Aufgaben Wissenschaftlicher Agrarpolitik*, an inaugural address delivered by the author when Rector of the University of Freiburg, Baden, Germany on May 23, 1947. (Originally published by the Verlag Karl Albert, Freiburg in Breisgau, 1948.) Translation from the German by Philip M. Raup, University of Wisconsin. The translator wishes to acknowledge the assistance of former members of the staff of the Liaison and Protocol Section, Office of Military Government for Germany (U.S.), in Berlin. Certain paragraphs have been deleted for editorial purposes, and with the approval of the author. Professor von Dietze has checked the translation, but the translator assumes full responsibiliy for any errors that have resulted from the rendering of the language and the concepts of one discipline into those of another.

† The author served on the staffs of the Universities of Rostock, Jena and Berlin prior to his appointment as Professor of Economics at the University of Freiburg, Baden, in 1937. He has accepted an appointment as Carl Schurz Memorial Professor at the University of Wisconsin, for the Spring Semester, 1951, where he will offer courses in price and trade policies, and in problems of European land tenure.

I

Agrarian policy falls under the economic sciences, the origins of which go back over more than 2,000 years. However, the classic philosophy of the Hellenes, the scholasticism of the Christian middle-ages, the so-called mercantilistic doctrines arising out of the time of the development of modern states and the birth of political economy did not consider economic life for its own sake. For them ethical and political considerations were of dominating importance. The philosophers of the "age of reason," living some 200 years ago, were the first to seek to recognize as such the interrelationships of the individual economies in accordance with the laws of the Creator or, if we prefer, the controlling laws of nature. It was they who first developed a systematic science of economics.

From the very beginning this science of economics had to cope with the antagonism between the doctrines of political economy and the economics of the firm.[1] Managerial economics (*Betriebslehre*) has to do with all matters within individual firms or households. Economics or political economy, on the other hand, concerns the interdependence of individual economies and enterprises. The resulting clash comes out in our case in the relationship between agrarian policy and farm management. It is complicated by the fact that the economic sciences as a whole and particularly political economy have never completely severed their connection with politics and ethics. Proof of this is that Adam Smith, famed as the father of political economy, wanted first of all to be a moral philosopher, and that the name *economie politique* for the science of economics, coined by Montchrétien in the 17th century, has been retained to the present.

[1] ". . . *der Spannung zwischen Volkswirtschaftslehre und Betriebslehre.*"

The doctrines expounded by the French physiocrats appear as the inception of a systematic science of economics. Their ideas were based upon the belief that only the farmer's work is productive; only his processes are those of creation or multiplication, whereas the processes of business and commercial activity are limited to those of addition. This was significant too for the development of a scientific agrarian policy. However, an overall system of economic observation based upon a definite appreciation of agricultural labor did not represent a specialized discipline of agricultural science.

The classical school of economics founded by Adam Smith quickly became definitive, even for economic thinking in Germany. This method was perfected by Thuenen at his estate of Tellow in Mecklenburg, thus giving the theory of political economy world-wide impetus. Pointing out this international relationship has special significance with respect to agrarian policy. As will be seen, agrarian policy as a specialized study actually represents a specifically German achievement. If I state this with proud satisfaction, and with the awareness of my own obligation, I do so in the conviction that this achievement must justify itself before the forum of science which necessarily is of an international character.

Thuenen cites as his teachers Adam Smith and Albrecht Thaer, the latter being the herald of rational farming in Germany, modeled after the British system. The manorial lord of Tellow accomplished his great intellectual feat primarily by thinking through an agrarian problem, with the (consequent) establishment of an economic theory of location (*Standortslehre*) for the different branches of agriculture, and its different types of firm. Together with Thaer he laid the groundwork for the construction

of a doctrine of farm management on an economic basis, although both scientists continued to rely chiefly on the scientific processes of nature as far as the doctrine of statics, i.e., of maintaining soil fertility, is concerned.

Thuenen's work, too, is an indispensable basis for a scientific agrarian policy. If, nevertheless, we do not characterize Thuenen as a specialist in agrarian policy, it is not due to the fact that in his day the expression "agrarian policy" was not yet current. To a much greater extent it is due to the fact that the forces, out of which agrarian policy as a scientific specialized discipline has arisen, were not then fully effective.

II

There were, of course, always important reasons for giving special attention to agrarian problems within the field of general economics. In the first place, the technical knowledge that the farmer and even the lowest peasant requires is much broader than in any other branch of economic activity. It also varies greatly within the same national economy. There is not much difference in the qualifications required of a locksmith, carpenter, etc., whether he has learned his trade in Constance or in Hamburg. Improvement of the farmer's knowledge, on the other hand, will always necessarily vary from region to region.

The legal and social order in which the rural population lives also is unique and many-sided. Since national economy is essentially the coalescence of innumerable individual enterprises, it will always necessarily have its social and legal aspects. But the interest evidenced by the economic sciences in the legal and social order is by no means limited to the fact that economic theory accepts them as datum. Especially in Germany our field of study, by following the division into economic theory, economic policy, and the science of public finance, set forth by Rau in his textbook some 120 years ago, has found in economic policy the place where the problems posed by the existing legal and social order are to be studied. The whole range of problems of a legal and social nature, which cannot be mastered simply by the premise of some kind of "natural order" (*Ordre Naturel*), is thus exposed in the field of agriculture.

The rural family economy not only is unique, but varies greatly with the size and composition of individual families and with inheritance and marriage customs. Wide dissimilarities in the farm worker's status likewise could be observed during the period of economic liberalism. There was a difference in the status of the farm laborers in East-Prussia and Pomerania (the so-called "*Inste*") and those in Silesia (*Lohngaertner*) and in Southern Germany (*Tageloehner*); the *Inste* received large payments in kind including a plot of land on which they could produce for the market, whereas the Silesian *Lohngaertner* received payment in kind sufficient only for his own household needs. The *Heuerling* in Lower Saxony, on the other hand, ranks somewhere between a farm laborer and a tenant farmer, a peculiar status not found in other parts of the country. We can achieve some idea of the wide differences among tenants if we recall the *métayer* in the South of France and the *fermier* in the Departments of the North; or the difference between the negro in southern United States, earning a scanty living as a small sharecropper after the breaking up of the cotton plantations through the abolition of slavery, and the well-to-do farmer's son in Iowa, who has leased from his father a part of an intensive crop and livestock farm, which often takes the

place of our customary parental support (*Altenteil*) contract.

Thus, as far as agrarian theory is concerned, there are such wide variations in the given legal and social order that the tendency toward specializing is easily understandable. Adequate agrarian laws, intended to do justice to the manifold conditions of rural living, call for an extensive knowledge of individual facts and individual considerations, especially if, in a country settled long ago, the traditional conceptions of law and custom and of equity and propriety are to be preserved.

A third reason for the specialized treatment of agrarian problems within the national economy is the peculiarity of price formation, both with respect to farm land as well as farm products. The law of diminishing returns is far more effective in farming than in industry, and the demand for vital food products much less elastic than the demand for most industrial products. It should be remembered also that the *homo rusticus*—and not he alone—reacts differently to price fluctuations than would be assumed on the basis of our classical theory. It follows from this that without specialization agrarian crises cannot be analyzed.

With the agrarian crisis affecting Middle and Western Europe since the 1870's, the political problems of agrarian protection, i.e., governmental measures against agrarian crises, became acute. Those problems, in part, fell under what Adam Smith designated as the most important exception to the principle of free trade, expressed in the words: "Defence is of much more importance than opulence." Then there were also biologic considerations culminating in the saying: "The rural population is the nation's fountain of youth." In times of social unrest the opinions deeply rooted in the peasant population were given special consideration as an important basis for public and social life. As a result there developed an agrarian movement with a definite trend away from Manchesterian liberalism, which had distorted the teachings of the classical school into an unconditional recommendation of a "laissez aller" policy, finally resulting in the repudiation of essential concepts of economic liberalism.

The agrarian movement was stronger in Germany and in other parts of Middle and Eastern Europe than in Western Europe or in any countries overseas. The British did not regard the downfall of the peasant class at home as a national loss since the domestic farmers had been replaced by the farmers of the large overseas settlements, and economic ties with overseas were maintained by the Empire's fleet. France was affected by the industrial revolution far less than England and Germany and hence the agrarian basis of her economy and public life was not noticeably endangered. France, in fact, occupied a significant and often decisive position in international agrarian organizations, but at no time did she develop a scientific agrarian policy as a specialized branch of national economy. Perhaps it is characteristic that in Germany more than 50 years ago the expression "flight from the land" came into general use, with an implication of regret or even of reproach, whereas the French speak of an *exode rural*, which implies a connection with the ordered exodus of the Israelites into the Promised Land. In the United States and in the British Dominions there was until recently far less reason for a solicitous appreciation of those foundations of economic, social, and political life which derive from agrarian sources. These states which developed from agricultural settlements were of course justified in regarding industrialization primarily as a

necessary supplement, an important prerequisite for wealth, authority, and power—just as the mercantilistic leaders of Europe, to use the words of our Freiburg historian, Georg von Below, were not yet familiar with the idea of governmental aid to agriculture. It should be added that the agrarian system of the Anglo-Saxon overseas territories is but a few generations old and was to a large extent systematically established according to a fixed plan, as for example through the Homestead Law of 1862 in the United States. While family farms thus predominate, yet the characteristics of the farmers do not include the peasant's feeling of permanent settlement, with his ties of attachment to the land he cultivates.

It is true that in the Anglo-Saxon countries agricultural economics, farm management, and marketing have been carried forward scientifically and with great enthusiasm, and with most significant results, but these countries were never intimately acquainted through experience with the problems so decisive for our agrarian policy.

The agrarian movement hence gained special importance in the development of the specialized study of agrarian policy (*Agrarpolitik*) and its methods, and perhaps too for some defects in the methods applied. The methods, however, must not be neglected if the ways and objectives of a scientific agrarian policy are to be properly worked out. We may also apply to this specialized field the words of Cuvier as quoted by Roscher: "The method of a science is of far greater importance than any single discovery."

III

The many different ways in which a history of research findings, i.e., of dogma or ideas, and a history of research methods may be interpreted can best be explained on the basis of a statement by Justus Moeser. It gives me special pleasure to refer to Moeser; in addition to being the author of the *Osnabrueck History* and the *Patriotic Phantasies* and famed as the founder of economic history and of the historical schools of law and political economy, he is also the spiritual ancestor of agrarian policy, to use the words of Sering, spoken as we once stood together before Moeser's memorial in Osnabrueck. In Moeser's essay on *Theory and Practice*, directed against Kant, he says: "Out of actual events more accurate conclusions can often be drawn than from stilted premises." With that statement Moeser touches on the same discrepancy often found in contrasting the deductive and inductive method. As we well know, both methods are indispensable to scientific thinking—to use a trite comparison—just as both the right and left foot are needed for walking. We are also fully cognizant of the fact that those wishing to proceed from actual events as a rule utilize premises which they cannot prove. This was true to some extent with Moeser himself, whose ideals of liberty determined his philosophy of history. For any method of scientific research, however, it is most important whether preponderant and systematic premises or actual events are chosen as a point of departure.

The method of treating the problem of the legal and social order in agriculture was expounded by Bernhardi 100 years ago in his book *An Attempt at a Criticism of Arguments Proffered On Behalf Of Large And Small Land Holdings.*[2] My esteemed and beloved predecessor in the professorship at Freiburg, Diehl, states that one can learn from Bernhardi, "how to lay out a problem correctly, both for questions of

[2] Theodor Bernhardi, *Versuch einer Kritik der Gruende, die fuer grosses und klienes Grundeigentum angefuehrt werden*, 2nd Ed. (Leipzig: Ernst Wiegandt Verlagsbuchhandlung, 1942); first published at St. Petersburg, 1849.

economic theory as well as for those of economic policy." At first Bernhardi fought against operating with "natural laws in the direct and actual sense of the word" only with respect to land ownership and its transfer, but used arguments which apply to political economy as a whole. He offers proof that "every feasible social situation, particularly a chosen one, has actually been created by the human will." Even the alleged fact that by law of nature landed property is freely divisible and alienable without restriction is, according to Bernhardi, a "willed or elected situation, created implicitly or explicitly and with or without conscious knowledge." Later, Bernhardi's expression "willed" or "elected" (*Gewillkuert*) was erroneously interpreted as "arbritrary" (*Willkuerlich*), and thereby a fundamental positivism and pragmatism was advocated, whereby man is given the opportunity and the right to establish any legal and social order in accordance with his own free will.

During the 19th century, thinking along historical lines replaced thinking based on natural laws, which had been opposed by Bernhardi. This historical approach also determined the contents of Buchenberger's *Agrarian Science and Agrarian Policy*,[3] though this book refrains from the recognition of any unchangeable laws of evolution. It is listed as an "independent section" in Adolf Wagner's textbook and manual on political economy. This work (published during the 90's) was the first important textbook that popularly introduced the name of our specialized study (*Agrarpolitik*). It has remained indispensable down to the present day.

It is instructive that Buchenberger at the beginning of his work sets forth a fundamental contradiction to Roscher. Roscher was the author of the first economics work dedicated to agriculture as such, though only as a part of the "system of political economy." Roscher, therefore, failed to treat this specialized study as an independent subject, as evidenced by the title of his book: *Economics of Agriculture and of Related Raw Material Production.*[4] He refers to his method as "historical-physiological." Contrary to the "idealistic method," no thought is given to evolving an ideal national economy. Instead, it aims simply at defining, first, the economic status and needs of the people; second, the laws and institutions designed to satisfy the latter; lastly, the major or minor results thus obtained. These are factors, Roscher asserts, which are firmly rooted in reality; which can be proved or disproved through customary scientific operations; which are plainly either true or false.

Roscher did not attain his purpose originally proclaimed, namely, to proceed from factual events only. Actually, his book is based upon much too rigid premises which he terms laws of nature. Schumpeter is justified in declaring that Roscher's historical method is dominated by the concepts of a specific philosophy of history. We must also agree with Max Weber who, regarding this method from the standpoint of logic, calls it a mass of contradictions.

On the other hand, Buchenberger has seriously failed to appreciate the exponent of the older historical school when he argues that Roscher would reject(as an idealistic method) the linking of a mere description of historical occurrences with a critical appraisal of agrarian conditions of today, therefore rejecting as well the discussion of reform and new develop-

[3] Adolf Buchenberger, *Agrarwesen und Agrarpolitik*, 2 Vols. (Leipzig: C. F. Winter, 1892-93.)

[4] Wilhelm G. F. Roscher, *Nationaloekonomik des Ackerbaues und der verwandten Urproduktionen* (first published in 1859; 14th Ed., edited by H. Dade, Stuttgart and Berlin, 1912).

ment. What Roscher rejects as an idealistic method is rather the attempt to establish absolute economic programs on the basis of an ideal national economy. This was done in its most crass form by one of the few German physiocrats, Schlettwein, the advisor of Karl Friedrich, Margrave of Baden. Schlettwein wanted the laws of all nations to be completely uniform. Roscher made numerous concrete proposals regarding economic policy, mostly of a liberal content, but always only for a certain nation at a specified economic level, which indeed is perfectly consistent with his historical-physiological method.

But how could a man like Buchenberger, outstanding scientist that he was, with such a wealth of technical knowledge and so well trained in political economy and history, so completely misunderstand Roscher's method? Certainly this should not be laid to his earlier activity as a practical administrator, for in those days even professors of economics and probably not of our branch alone proved that they hardly understood the meaning of methodological clarity and consistency. Simultaneously, some of them, in the name of science, proclaimed themselves in favor of free trade, while others, with equal solemnity, called for agrarian protection, thus becoming advocates of the industrial or of the agrarian state, respectively.

Since the 70's the doctrines of political economy, influenced by Schmoller, had undergone a change of method on German soil that cannot even approximately be characterized clearly enough by means of the customary distinction between the older and the younger historical school. Under this changed approach it was to be through the individual investigation of actual events that conformities with the laws of development were to be discovered. For the development of political economy, economic and legal history were definitive, with increased stress and new emphasis. These developments, together with the steadily growing volume of material, led to specialization in the fullest sense of the word.

At the same time, German political economists were filled with a warm enthusiasm for social reforms which, as we know, earned them the nickname of "Professorial socialists" (*Kathedersozialisten*). As Schmoller stated in the *League for Social Reform* (*Verein fuer Sozialpolitik*,) the aim was to defend truth and goodness, equity and justice, and give increased weight to these supreme powers of human life. Schmoller prided himself in calling his way of teaching the historical-realistic-ethical school of political economy. But insofar as he sought to explain realities by means of ethics, his ethics did not have the absolute nature for his historically-influenced concepts which one would expect on the basis of his appeal for social reform. Occupied with a multitude of technical research problems, and under the strain of effective participation in public life, in which he assumed common agreement to exist as to the essence of truth and goodness, even this outstanding and extremely capable man did not succeed in clearly defining and logically developing his methods and, above all, the essentials of his views on ethics.

In this intellectual situation, with its great individual contributions and its fundamental weaknesses, with its enthusiasm for ethics accompanied by a lack of clarity, and with its wealth of knowledge but inadequate methods, agrarian policy as a specialized study had its origin. We must trace its development from this point on.

It became necessary for specialists to create and consistently apply progress-

ively more refined methods for clarifying a branch of study which required systematic and thorough research. The dangers of specialization therefore consisted in losing sight of the field as a whole, or in the specialists presuming that they could explain God and the universe with the methods and concepts of their little field of specialized study. The successful specialist, on the other hand, recognized that in order to comprehend fully his special subject of study, his work had to be supplemented by the teachings of specialized studies in other fields. He is made to realize finally, through study of his own subject, that all branches of science depend upon one another. This is especially true for the natural sciences.

In the specialized study of agrarian policy and in the historical-realistic--ethical doctrine of economics in general, a wealth of the most varied material was gathered together. In the hands of the best, this resulted in vigorous presentations, eloquent appeals, and effectively planned programs. The danger also became apparent, however, that incentives for specialized study were being borrowed from various gods and from the most remote corners of the world without being suitably coordinated into a composite whole; and without maintaining the proper relationships within the larger concept of political economy, or with specialized studies in other fields. This danger was also intensified through a fundamental relativism, which rejected the leading role played by science in the formation of ideas; economic scientists were now confronted with the possibility of their doctrines becoming subordinated to the claims and ideologies of influential interest groups or political powers. Fortunately, on the other hand, we also can show how agriculture in particular, through the kind of thorough study that can be made only by specialists, points to the interrelations with other branches of the economy and of life, and inspires efforts to gain a general systematic clarity.

While the specialized field of agrarian policy received its own textbook from Buchenberger, and was expanded by the significant individual work and successful teaching activities of Sering, there were also numerous other scientists who took leave of the general field of political economy and occupied themselves with the agrarian question. Especially worth mentioning are Conrad and Brentano. Conrad was the author of the widely used textbooks of political economy,[5] and enriched agrarian research with his profound knowledge, sound judgment, and thorough specialized research. Brentano, a liberal social reformer, vigorously supported the trade unions. Both fought against the almost unlimited faith in the possibilities of action by the state, calling attention to limitations growing out of the actual nature of events and the interrelationships of the whole of economic life. Brentano, however, entered the controversies on agrarian policy only with the purpose of opposing the newer trend, defined by Sering as the socio-political school of agrarian policy, to which we must also identify Buchenberger. Although Brentano championed liberal, radically free-trade convictions, he was throughout no opponent of the historical-realistic method. It is true, though, that his theses on agrarian policy, based less on careful individual research than on brillian constructions, were often quickly refuted. Brentano simply was not sufficiently specialized in agrarian matters, and particularly not in agricultural history. His textbook *Agrarian Policy* (*Agrar-*

[5] See, for example, Johannes Conrad, *Gundriss zum Studium der politischen Oekonomie* (Jena: G. Fischer, 1896 ff).

politik)[6] published in 1897 is nevertheless of continuing value as regards the theoretical foundations of methodology.

The name of the "socio-political school" of agrarian policy indicates only one trend; it also belongs, at the same time, to the historical school of political economy. It was based on the extensive agrarian historical research work accomplished since the middle of the 19th century by such men as Hanssen, G. F. Knapp, Meitzen, and Miaskowski, with such rich results. Many specialists in agrarian policy could boast also important individual accomplishments in the field of agrarian history. This school was built upon concepts and policies which originated with Justus Moeser, Baron v. Stein, Rodbertus, and Schaeffle. In contradiction to an ideological, economic, and even materialistic liberalism, this school frequently cited the dictum of Baron v. Stein that he did not perceive the chief aim of the state to be in increasing the level of production or the size of its population, but rather in attaining the ethical, intellectual, and moral perfection of the nation. With this aim in view the school pursued its agrarian policy. The combination of socio-political inclinations with historical research and thinking resulted out of the conviction that, particularly in the body of agricultural knowledge, "lasting results can only be expected to come from a further development of historic actualities" (Sering).

It is quite obvious that orthodox Marxism, despite its stimulus to agrarian historical research, could not determine the development of this specialized study. Marxism was opposed to assigning to agriculture any special position, specifically with respect to the asserted trend toward concentration. The "Erfurt Platform" declared that small farms were doomed to disappear by the "requirements of nature," and included the farmers as part of the dissappearing middle class. Within German social-democracy, however, the revisionist movement became dominant; it grew in importance particularly in connection with agrarian problems and with the help of Eduard David's book, *Socialism and Agriculture*.[7] In the winter of 1918/19 the Social-Democratic people's delegates (*Volksbeauftragte*) declared themselves in favor of the Reich Settlement Law which was drafted by Sering and was completely non-Marxian.

Finally, Kautsky stood practically alone among German Social-Democrats as a defender of orthodox agrarian Marxism. The party platforms in Austria and in Germany proclaimed the "theory of the eternal peasantry." With this development, there was no longer any sharp methodological separation between the social-democratic agrarians and those of the socio-political school. The resulting opportunity for successful cooperation was utilized, as evidenced by the work of the "Committee of Inquiry" ("*Enqueteauschuss*", 1926-1930), although there was still a discrepancy in political objectives.

IV

When the Reich Settlement Law was enacted in 1919 Sering was already the leading agrarian scientist and, during the two decades that followed, his reputation grew as a result of additional important achievements. Enjoying the confidence of everyone, Sering published the results of the "Committee of Inquiry" in his comprehensive book on *German Agriculture*.[8] He was originally a political

[6] Lujo Brentano, *Agrarpolitik*, 2nd Ed. (Stuttgart and Berlin: J. G. Cotta'sche Buchhandlung nachfolger, 1925) first published in 1897.

[7] Eduard David, *Sozialismus un Landwirtschaft* (Leipzig: 1903); 2nd Ed. 1922.

[8] Max Sering, *Die deutsche Landwirtschcft*, Special Volume 50, *Berichte ueber Landwirtchaft* (Berlin: Paul Parey Verlag, 1932).

economist, and turned his attention to agrarian policy issues only after receiving his habilitation degree and his appointment as university professor. He then became a specialist in agrarian policy. His treatment of the problem of agrarian crises showed in particular how material which he thoroughly scrutinized as a specialist caused him in turn to become very versatile. Sering always considered himself a member of the historical school, and was very close to Schmoller. Nevertheless, in 1924-25, by skillfully applying the theories of Thuenen, Sering clarified the fundamental differences in the causes of the agrarian crises which had occurred prior to 1900 and after 1920.

In line with the historical basis of his thinking, Sering's proposals with respect to agrarian policy were always offered for concrete situations. The very fundamentals of his work, however, were deeply determined by an unchangeable ethic, which recognized eternal laws. He realized more and more that for him the Christian religion was not merely one among may prominent sources of productive power, as it was for Frederick List. Rather, it was "the supreme goal and at the same time the profoundest basis for all spiritual life," as Roscher, in his *Spiritual Thoughts of a Political Economist*,[9] had emphasized, in contradiction to Schmoller.

I shall refer here only briefly to the most important works on agrarian policy written by other authors during the last few decades prior to 1933. Here we may include Wygodzinski, Fuchs, and Skalweit in the socio-political school of agrarian policy. Fuchs in particular published the results of important research on the history of agricultural classes, and he was interested in rural welfare and tradition. Wygodzinski continued Buchenberger's textbook whereas Skalweit revised the fundamentals of Wygodzinski's agrarian policy. Thus Buchenberger's ideas and methods continued to be applied. Schullern-Schrattenhofen, endeavoring to represent agrarian policy as an organic part of national economic policy in general, and of overall cultural policy, has failed to develop this idea (which is indeed of interest for our present topic of discussion) in a way that might have established it as a new school of thought. Kaethe Bauer-Mengelberg employed primarily Brentano's basic principles in her *Agrarian Policy: Its Theory, History, and Current Problems.*[10]

Several works on agrarian policy were written by teachers of farm management. The indispensable intellectual cooperation between the teachers of farm management and the specialists in agrarian policy was fostered by men such as Aereboe, Th. Brinkmann, and Laur, who successfully exploited Thuenen's doctrine and systematically developed an agricultural managerial science based on economic methods. Specialists in farm management wrote books on agrarian policy chiefly because they were required in teaching, so that the agricultural students would receive a broad education in agriculture in addition to technical training and knowledge of economic principles. Aereboe, whose teacher, v. d. Goltz, had already worked in that direction, actually stated that, "viewed as a doctrine, agrarian policy should primarily serve to educate leading politicians." Though Aereboe attributed to agrarian policy as a field of research the task of demonstrating how the agricultural situation of a state or of states may be improved, this proved inadequate for coordinating a systematic agrarian policy with the doctrine of farm management

[9] Wilhelm G. F. Roscher, *Geistliche Gedanken eines Nationaloekomen* (Dresden: 1895).

[10] Kaethe Bauer-Mengelberg, *Agrarpolitik in Theorie, Geschichte und aktueller Problematik* (Leipzig and Berlin: 1931).

and/or for integrating both into the major relationship between political economy and managerial science. Aereboe's textbook on agrarian policy,[11] therefore, lacks clearness in method and detailed special knowledge. It was not as successful as his treatment of farm management; it offered his scholars a multitude of incentives, but failed to help them master systematically the varied material and thus failed to lead to a fruitful coordination between agricultural specialization and the broad fields of the arts and sciences.

Some books published after 1933 cannot be classed as scientific at all; others, by employing scientific and psuedoscientific terminology, seek a way to acknowledge national-socialistic agrarian policy without appearing as apostate lackeys. The fact that the model national-socialist agrarian policy was publicly acknowledged and extolled by highly esteemed foreigners as late as 1939 is an indication that any regrettable and humiliating aspects evinced by our branch in those days must not be attributed alone to the character weakness of German professors. The scientific level of our specialized study was inadequate and offered no protection against such aberrations.

In 1934, however, without making any concessions whatsoever to the regime of that time, a book was published in Germany that is the most valuable and comprehensive work on our specialized study, namely, Sering's *German Agrarian Policy Based upon History and Geography*,[12] which was dedicated to the participants in the International Conference of Agricultural Economists held in Germany in that year. This book was to be revised; a careful examination of its basic methods was to provide a mature textbook on agrarian policy. Unfortunately, neither Sering nor we ourselves were able to witness the completion of this project.

V

My reasons for concentrating on Sering so much will be understood by everyone who knows how closely I have been connected with him. I am justified in doing so not only by the fact that the past course of scientific agrarian policy can be demonstrated most clearly from Sering's work, but also because even present objectives can best be distinguished by studying Sering's opposition to the Reich Law on Hereditary Farms (*Reichserbhofgesetz*).

From the eighteen nineties on, Sering had advocated a law of "closed inheritance" (*Anerbenrecht*), i.e., the legal recognition of the right of a single heir to the undivided succession of peasant farm land, where this conformed with the traditions of the parties concerned. In 1933, however, peasants were deprived of their freedom to draw up wills and to devise their property to living persons. Male heirs generally were given precedence over women, the equal rights of children were cancelled, and collateral heirs were barred from a share in the parental farm, but were placated with rights to education or training, a trousseau, a set of tools, a start in business, or a place of refuge when in need. This procedure was extolled as a German custom of inheritance, and the term *Anerbenrecht* was incorrectly retained for it. Sering proved, however, that the Hereditary Farm Law (*Erbhofgesetz*) was not rooted in German inheritance customs, but was a jumble of the rules of Spanish primogeniture and of the Russian system of communal liability for taxes (*Solidarhaft*), plus vague concepts of

[11] Friedrich Aereboe, *Agrarpolitik, Ein Lehrbuch* (Berlin: 1928).

[12] Max Sering (with the assistance of H. Niehaus and F. Schloemer), *Deutsche Agrarpolitik Auf Geschichtlicher und Landeskundlicher Grundlage* (Leipzig: H. Buske, 1934).

Germanic clan law. He did this for the sake of scientifically established truth, but also because he was convinced that peasant families could remain vigorous social units only if they clung to their traditions, and that an imposed regulation alien to the needs of peasants would certainly lead to their downfall.

The study of the historical development of the land tenure system and of its most desirable form is, however, only one aspect of agrarian policy, although it is so important that it is frequently called "agrarian policy in the narrower sense of the word." The remaining aspects comprise objectives which are to be attained by widely different methods. Above all it is important to distinguish clearly between the problems of land tenure and agrarian social policy on the one hand, and agricultural economics and its corresponding agricultural policies on the other. This task comes very near to the systematic distinction, made for several decades by American scholars, between agricultural economics and rural sociology. Information on this subject we owe to my co-worker and friend of many years, Leo Drescher, who died such a tragic death in 1945 shortly after his homeland of Thuringia was occupied. I mention him not only to express my personal esteem. His absence also symbolizes the acute lack of personnel due to our loss of first-class experts.

Although originally developed in Germany, our scientific agrarian policy has been adopted in Switzerland, the Netherlands, Scandinavia, and in the countries of eastern Europe. Howald recently stated, as the reason for the publication in Switzerland of the first textbook on agrarian policy, that the good German textbooks on agrarian policy were no longer published under the National-Socialist regime. In other countries, especially in Anglo-Saxon and French scientific circles, our theories have been studied and appreciated.

Our specialized study has been of practical use for agrarian development within Germany. In particular—and this is especially worth noting at present—it has decisively contributed to the fact that during the revolutionary years after 1918 the problems of agrarian reform and notably the problems of redistribution of land were not precipitated by the opinions of well-meaning amateurs or by political party prejudices. On the contrary, the Weimar Republic was careful to bring the work of independent scientifically-trained experts to bear in establishing its agrarian legislation.

For this advisory role in practical economic policy in particular, specialization was indispensable. The development of a systematic and independent science of general economics already constituted specialization and, from a scientific point of view, a very appropriate and advantageous specialization at that. Economic life has so many features of its own that it cannot be summarily treated as part of the political or ethical sciences. On the contrary, the economic sphere as such requires systematic research. Since we must employ historical-realistic methods to a large extent in our agrarian policy in its narrower sense, i.e., as a specialized study, we are vitally interested in preventing political economy from being split into a dualism of historical and theoretical methods. Agrarian policy depends to a large degree on absorbing the theory of the economic order and of the nature of markets, which overcomes this dualism. For this purpose we have here in our Freiburg University the very best technical and personnel facilities.[13] Agrarian policy, for

[13] In saying this the author is referring to the work of Professor Walter Eucken (who died in 1950) of Freiburg University and particularly to his well-known book, *Grundlagen der Nationaloekonomie* (Jena: 1940).

its part, can considerably enrich and stimulate economic theory, for instance, by developing the theory of the family farming system as founded by Russian scholars. On the other hand, it is itself greatly assisted by the fact that economic theory is concerned with agrarian problems, which is gratefully appreciated.

But how do we arrive at the principles by which man is entitled and called upon to shape the legal and social order? In mentioning Bernhardi above, we said that man cannot and must not choose the legal and social order arbitrarily. He cannot because he is limited by objective requirements, the nature and contents of which are disclosed in the systematic science of economic life. He must not because he is subject to standards which are treated scientifically by social ethics. If, however, irrevocable laws of evolution are decreed, the political and social sciences will be left merely with the task of a midwife. Contrary to such attitude, we are thoroughly convinced that we human beings must in any situation strive for an absolutely good order, or at least for the relatively best one, and that we must work it out carefully and make it secure. This being so, we are receptive to social ethics as a study which make use of changing standards but that also recognizes eternal laws as the ultimate authority. True, we must give consideration in such endeavors to objective requirements, clarification of which is up to the systematic methods of professional study. It is specialized professional study and its individual specialized disciplines in particular, however, which lead us from the study of particular subjects to the realization that we have an inevitable responsibility for the establishment and maintenance of a proper economic and social order, and that we cannot meet this responsibility merely by applying the results of systematic research in the field of political economy. This science, as it is, cannot furnish any authentic and binding statements about man as an entity, and his purpose, and about God and the world. It enters the field in which such statements are possible only by establishing contact with social ethics.

The technical knowledge resulting from the study of agrarian policy, and the proper application of the theories of political economy, for instance, enable us to prove that family farming does not harmonize with a centrally directed economy, though it agrees perfectly with a general, consistently pursued system of competitive enterpise (*Wettbewerbsordnung*). We can likewise prove that collective farms can prosper under a free economic system only as an exception; their proper place as authoritatively directed cooperative associations is in a centrally directed economy. From this we may conclude that those who wish to to retain the family farming system must reject a centrally directed economy and favor competitive enterprise; while those who consider the collective farm system desirable must favor a centrally directed economy. Political economy, however, cannot bring about a final decision in favor of a system of directed economy or that of free enterprise merely by being self-contained and by using its ideas and theories alone. It is certainly a significant economic observation that a centrally directed economy, with its absence of markets, is not in a position to appraise its technical achievements at their true economic value, impressive though these achievements may be. This observation is, at the very most, only the next-to-last word. The ultimate authority rests with social ethics.

In such matters we cannot or we can no longer have recourse to the rule that the observance of moral principles is a

matter of course. Neither must we take for granted that individual personalities with high moral principles, convinced of the validity and sacredness of eternal laws for their persons and their teachings, will always find the right way. In order to continue the work of these venerable men and to fulfill the tasks of our science, political economy must depend on the systematic study of social ethics. In particular, we must draw a clear distinction between traditional opinions established in the course of history and therefore changeable and only relatively binding, and the absolutely valid eternal laws and principles.

Income and Housing Cost Trends of Boston's Middle-Income Groups: 1846-1947

By LLOYD RODWIN*

THE housing problem of middle-income groups has generated widespread interest in the last few years. Yet despite the welter of discussion, almost no studies are available on this subject. The purpose of this paper is to provide an historical analysis of the available data concerning the housing supplied to the middle-income groups of Boston, particularly with reference to income-cost trends. Boston was chosen for several reasons. National averages would be of little value because of the geographical variations. Also much more detailed data are available for local communities. Boston, moreover, provided a convenient source of information for the author.

To subject these variables to analysis is obviously no easy task. Classified and comparable data are scanty. Evidence has to be obtained by indirection from a variety of sources. Several important assumptions also must be made. Nonetheless, such estimates are attempted because of their potential usefulness in appraising the evolving housing situation at least for the Boston area. Though the conclusions must be regarded as tentative only, the trends disclosed suggest the desirability of comparable analyses for other communities.

1. Assumptions and Procedures

The following assumptions and procedures were employed. First, mechanics, semi-skilled and skilled workers as well as lower-paid salaried and professional workers were regarded as representative middle-income groups in contrast to the unskilled labor force which comprised the low income group. This breakdown afforded a basis for demarcating middle- and low-income groups for the earlier periods when income distributions were not available. The distinction, it should be noted, is in accord with the present Census classification of the socio-economic scale of the labor force.[1] A check of the earnings of male workers by occupation in the 1940 Census also indicated that the comparable Census categories for semi-skilled and skilled workers made up the bulk of the middle-income labor force. An advantage of this simplification is that it allows a fairly reliable identification of middle-income groups for diverse periods which can also be used to supplement other contemporary indices.

To check on the adequacy of the housing provided, the wage or income ranges of the middle-income families were determined and then compared with the price of minimum standard housing, both the existing housing stock and new construction. Developing such income distributions would be a hazardous task even for a current analysis. Enough data have been unearthed, however, to allow reasonable first approximations; and certain additional checks have been employed to limit the range of error. In general, an attempt was made to approximate the income range of the middle third of Boston's families. This

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[1] A. M. Edwards, *Population, Comparative Statistics for the United States 1870-1940* (Washington, D.C.: Sixteenth Census of the United States, 1940), p. 183. Also, *cf.*, Sixteenth Census of the United States: 1940, *Population, The Labor Force*, Vo. 3, Part 3, Table 16, p. 546.

information was checked and adjusted on the basis of other income data available in a variety of studies. These studies were particularly valuable when income distributions were unavailable and were used to estimate total family income of typical middle-income groups such as skilled workers. Efforts were made in all of these derivations to keep possible errors in the direction of the higher income estimate. Further explanation of the basis for the derived estimates is provided in the analysis of the middle-income range for each period.

In establishing the shelter rents charged for housing of minimum standards, the judgments of the period concerning housing quality were relied upon to ensure a conservative analysis. The rent estimates attempt to approximate what the middle-third families were paying or would have to pay for existing or new housing. As a rule, the rents for each period refer to dwellings containing 3 to 5 rooms. They are based on available studies for the period and were checked with newspaper advertisements and other sources of information. Whenever possible, attempts were made to keep the error toward the lower rents.

To judge the price adequacy of the housing provided for each period, it was assumed that 1/6 of income represented a reasonable proportion for *shelter* rent. This proportion is hereafter referred to as the rent-paying capacity of the middle-income group. The purpose of this normative ratio is to determine whether the amount paid for rent was reasonably in line with this rent-paying capacity. Several considerations influenced the choice of 1/6 as the criterion. First, budget data for the two earliest periods indicated that this proportion, and possibly less, was actually being paid for rent. Second, it is a commonly accepted rule today that the proportion of gross rent (i.e., shelter rent plus the cost of utilities) should not exceed one week's salary, or 23% of the income of the moderate-income groups.[2] Assuming utilities average 5% to 8%[3] of income, shelter rent must be about 17% to satisfy this norm. Moreover, since most workers are not employed 52 weeks a year, this proportion must be considered fairly generous. Third, the proportion is taken of total family income, not just of the principal wage earner's salary and, therefore, it is in effect higher than would ordinarily be contemplated according to the rule of thumb. Fourth, since Charles Abrams, a noted housing expert, contends that 21% to 23% should be the maximum per cent of net monthly income ownership payments to incur safe ownership charges, it would be reasonable to expect an even smaller proportion for the tenant who is not making any "investment."[4] Finally, the same rent-paying ratio is maintained for the entire period surveyed since the best available evidence indicates that as income increases the rent ratio tends to decline or, in other words, that the expenditure for some of the other budget items, particularly sundries, tends to increase percentagewise. By freezing the rent-paying ratio we are in effect mediating between the "normal" tendency for the percentage of rent to decline and the possibility that changed standards might partially arrest the process.

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[2] The closest equivalent to the rule that one week's salary should be paid for a month's rent is 23% of annual income, assuming 52 weeks of employment. Also, *cf.*, P. A. Samuelson, *Economics, An Introductory Analysis* (New York: McGraw Hill Book Co., 1948), p. 202.

[3] The differential between contract and gross rent in 1940 for the middle income range for Boston City and the Boston Metropolitan Area varied from 5% to more than 8%. Sixteenth Census of the United States: 1940, *Housing, Characteristics by Monthly Rent or Value, Massachusetts, Third Series.* Table B-3, p. 15; and Table C-3, p. 20.

[4] C. Abrams, *The Future of Housing* (New York: Harper and Brothers, 1946), p. 40, footnote 1.

Seven periods were selected for study: 1846, 1875-1885, 1885-1895, 1900-1915, 1920-1930, 1930-1940 and 1946-1947. These periods were selected partly because of the availability of data and partly because several of the periods corresponded to important changes in the housing situation. The information for all the periods provides a summary overall view of housing cost and middle-income trends for the past century.[5]

No adequate data were discovered to allow estimates of the volume of housing for the middle-income price range for all periods. Therefore, except where estimates could be made, it was assumed that at the lowest price level at which minimum standard housing could be built, adequate volume was achieved to serve the corresponding income bracket. Note will be made at the conclusion of this analysis of the probable implications involved (a) if errors occurred because of higher income and lower rent estimates; or (b) if the assumptions concerning both the quality and quantity of housing are only partially correct.

2. *Middle Income Ranges and Rents for Boston's Existing Stock of Housing*

1846: The Bureau of Statistics of Labor conducted a study of wages and prices in Massachusetts from 1752 to 1860. Wages for skilled workers ranged from $1.25 to $1.75 per day with special trades receiving as much as $2.[6] Let us generously assume 300 days employment plus additional income for supplementary wage earners equal to one-third the income of the principal wage earner[7] and an additional 16-2/3%[8] higher wage level or the Boston community. Annual family income would then range from $584 to $934. The rent-paying ability per annum would be $97 to $156, assuming 1/6 of income was spent for rent.[9] Adequate rent data for this period are unavailable. It seems reasonable to suppose, however, that minimum rents for dwellings having three to five rooms ranged from $1.75 to $3.00 per week or about $91 to $156 per annum. "To-let" advertisements in the newspapers provide some evidence to support these estimates.[10] For the middle-income group, therefore, there was under optimum conditions only a normal supply problem affecting a durable consumer's good and possibly a question of quality. But there was no serious rent problem except for the threat inherent in irregular or cyclical unemployment.

1875-1885: An 1875 study of wage and salary incomes in Massachusetts indicated that despite the depression average total family earnings of approximately 5,000 "wage receivers" in Boston equalled $1,100.[11] Schedules of 1,600 salary receivers in Suffolk County averaged $1,715.[12] Supplementary data re-

[5] A more detailed treatment of other aspects of these trends in reference to housing standards, budget patterns, the "filtration" controversy and housing tenure will be presented in a separate paper.

[6] *Sixteenth Annual Report*, Bureau of Statistics of Labor, Commonwealth of Massachusetts, Public Document No. 15, 1885, pp. 283-85.

[7] *Sixth Annual Report*, Bureau of Statistics of Labor, Commonwealth of Massachusetts. Public Document No. 31, 1875, indicates after a careful study that "fathers rely or are forced to depend upon their children for one-quarter to one-third of the entire family earnings." p. 384.

[8] Data available in surveys of wages in Massachusetts and Boston indicate a difference of 15% to 18% in wages and total family income between the state average and the Boston average for earnings. This is the basis for the assumption of a 1/6 differential for this and the two subsequent periods. *Seventh Annual Report*, Bureau of Statistics of Labor, Commonwealth of Massachusetts, Public Document No. 31, 1876. See Tables on pp. 69 and 100.

[9] *Sixth Annual Report*, Bureau of Statistics of Labor in its 1874 survey indicates that skilled workingmen in Massachusetts paid 16% of their income for rent, p. 388; also an expenditure study in 1876 of Boston's skilled workers indicated a 15% average of rent to income. *Seventh Annual Report*, Bureau of Statistics of Labor, *op. cit.*

[10] Characteristic advertisements for this and subsequent periods are listed in Lloyd Rodwin, *Middle Income Housing Problems in Boston*, Appendix E, (unpublished doctoral dissertation, Harvard University), Widener Library, Cambridge, 1949. Also, additional data and citations on income and costs will be found in Chapter 3.

[11] *Seventh Annual Report*, Bureau of Statistics of Labor, *op. cit.*, p. 100 (Table).

[12] *Ibid.*, p. 252 (Table).

veal, as was suspected, that both averages, and especially the latter, were too high. The schedule for salary receivers included many occupations not appropriately included in the middle-income brackets.[13] On the other hand, the survey of the wage receivers included a very high proportion of skilled workers.[14] A survey in 1874 of earnings for skilled workers in Massachusetts yielded an average total family income of $817.[15] If 16-2/3% were added to adjust for higher wage rates in Boston, the total earnings would be $953.

Another approach might be to examine prevailing rates of pay. For example, the higher average hourly and weekly wage rates in Massachusetts ranged from $0.17 to $0.23 an hour or $10 to $14 a week.[16] With adjustments of 1/3 for supplementary wage earners plus 16-2/3% for the Boston area, the range of total annual earnings would be from $809 to $1,133. On the basis of these data, it appears appropriate to regard $950 as the approximate average middle income. It is necessary, however, to establish the range as well as the median for the middle-income bracket. One may start with the state minimum average income of $600 below which dissavings or debt occurred.[17] A 16-2/3% adjustment for the Boston area yields $700 as the probable lower limit of the middle-income group. The upper limit would then be $1,200. For this income range rent-paying capacity at 1/6 of income would be $117 to $200.

If the same proportionate adjustments are made in average rents indicated in the 1875 survey for Boston and Suffolk County as were made for income, adjusted average rents of $140 to $162 are obtained. Newspaper advertisements indicate that the range of rents probably varied from $100 to $215. This range of rents is in line with budget studies of Massachusetts and Boston wage earners as well as with other estimates made by contemporaries during this period.[18] Fairly satisfactory dwellings also seem to have been available. Comments and statistics on the quality of workingmen's apartments in the 1874 survey show a fairly small proportion of units according to the then prevailing standards of *poor*.[19]

1885-1895: Table I presents wage distribution data for Boston which are

TABLE I—Number and Percent of Wage Earners By Classified Weekly Wages In Boston: 1885-95

Weekly Wages	1885		1895	
	Number	Percent	Number	Percent
Under $5	3,530	10.8	7,300	10.2
$ 5–6	1,875	5.8	4,129	5.8
$ 6–7	2,200	6.8	5,047	7.0
$ 7–8	1,679	5.2	3,677	5.2
$ 8–9	1,925	5.9	3,966	5.6
$ 9–10	2,376	7.3	5,822	8.2
$10–12	4,245	13.0	7,609	10.7
$12–15	6,293	19.3	13,330	18.8
$15–20	6,503	20.1	15,771	22.1
$20 & Over	1,976	6.1	4,688	6.6
Total persons employed	57,607	.....	.....	.....
Persons reporting	32,602	100.0	71,339	100.0

Source: The Massachusetts Census of Manufactures: 1885, *Manufactures, The Fisheries and Commerce*, Vol. 2, Boston, 1888, pp. 254-55; The Census of the Commonwealth of Massachusetts, *Manufactures*, Vol. 5, *op. cit.* p., 283.

[13] For example, the survey included bank officials, chemists, civil engineers, dentists, journalists, lawyers, a managing editor, etc., *Ibid.*, p. 205.

[14] *Ibid.*, pp. 4-14.

[15] *Sixth Annual Report*, Bureau of Statistics of Labor, 1875, *op. cit.*, Table 10, p. 368.

[16] A sixty-hour week generally prevailed. *Sixteenth Annual Report*, Bureau of Statistics of Labor, 1885, *op. cit.*, pp. 121-122 also *Tenth Annual Report*, Bureau of Statistics of Labor, Public Document No. 31, Commonwealth of Massachusetts, 1879, pp. 67-77; and *Fifteenth Annual Report*, Bureau of Statistics of Labor, Public Document No. 15, Commonwealth of Massachusetts, 1884, p. 296.

[17] *Sixth Annual Report*, Bureau of Statistics of Labor, 1875, *op. cit.*, Table 18, pp. 380-84.

[18] *Seventh Annual Report*, Bureau of Statistics of Labor, 1876, *op. cit.*, pp. 221-254. J. Quincy employed $175 per annum as an average rental for the "best tenements." *Second Annual Report*, Bureau of Statistics of Labor, Commonwealth of Massachusetts, No. 150, 1871, *op. cit.*, pp. 530-531. Also R. T. Paine, analyzing the possibility of building a home through cooperative banks for workingmen, estimated average tenement rents for this group to be $204 per annum. R. T. Paine, "Home for the People" (Reprinted from the Journal of Social Science, No. 15). *Contribution to the Science of Charity*, Boston, 1882, p. 16.

[19] *Sixteenth Annual Report*, Bureau of Statistics of Labor, 1885, *op. cit.*, Table 5 and pp. 489-90.

available for the period from 1885-1895. Economic depression during this period resulted in lower income. Approximately one-third of the families were in the weekly wage range from $9 to $14. However, this range is probably low since wage earners only were included. Further confirmation is provided by Robert Woods who observed that most of the residents of the South End receiving wages below $12 a week constituted the majority of unskilled workers.[20] It is probably more reasonable to regard those earning between $10-$16 a week, or $693-$1,109 total family income per annum as the middle income bracket.[21] Their rent-paying capacity may be estimated as $116-$185 per annum.

Rents of the highest grade tenement houses, apartments and flats, according to Robert Woods, ranged from $20 to $35 and upwards a month[22] or about $240-$420 a year. If this were the case, few if any of even the highest paid workers could afford such accommodations. This would be true even if supplementary earnings of members of the family were included[23] and no deductions made for earnings lost due to irregularity of employment or other reasons. If, on the other hand, average white collar and professional income were employed as an index, the more inexpensive of these apartments would become available to some since the average salary was $1,151[24] and probably closer to $1,500 if supplementary earnings are included. This average, is inflated and represents probably the penumbral zone between middle- and upper-income brackets.

The analysis hinges to some extent on the accuracy of the index of $20-$35 a month for good dwellings. Robert Wood's estimate probably referred to those in the higher income brackets. A later study of the South End in 1903 (just after the Spanish-American war) indicated that well paid operatives earning $20 and $30 a week paid $4 and $5 a week (or $18-$22.50 a month) for apartments in the South End.[25] Dwelling units at least $1 a week cheaper ($13.50-$18 a month) were available in the suburbs. Rents in the worst tenements of Boston, however, ranged from $5 to $14 a month and averaged approximately $8.50.[26] It seems reasonable to assume that minimum standard dwellings were available somewhere between $8 and $14 per month. The rent range for middle-income houses can, therefore, be estimated at $11 to $17 per month, or $132 to $204 per annum. This supposition is largely backed up by newspaper advertisements for three- to five-room tenements and by the data on the distribution of families by rent classes in

[20] R. A. Woods, (ed.), *The City Wilderness* (Boston and New York: Houghton Mifflin Co., 1898), pp. 101-102. Cf. Eleventh Census of the United States: 1890, *Report on Manufacturing Industries in the United States*, Part 2, Statistics for Cities, pp. xxii-xxiii. The income range used above is probably generous. However, it is supported by the testimony of a fairly reliable contemporary observer. The federal census data are useful, however, in gauging the direction of error.

[21] The adjustment for total family income employed the assumption again of one-third additional income for supplementary wage earners.

[22] R. A. Woods, *The City Wilderness*, op. cit., pp. 101-102.

[23] C. D. Wright, *Comparative Wages and Prices: 1860-1883.* Massachusetts and Great Britain, p. 50, Table entitled Workingmen's Budget Averages, Massachusetts and Great Britain, included in the *Sixteenth Annual Report*, Bureau of Statistics of Labor, 1885, Commonwealth of Massachusetts, *op. cit.*, pp. 52-53.

[24] The Census of the Commonwealth of Massachusetts, 1895, *Manufacturers*, Vol. V, Boston, 1898, p. 279. Inclusion of high-income salaried employees probably inflates the average. The mode would probably be somewhat lower. Approximately ⅓ has been added for supplementary earnings.

[25] R. F. Phelps, *South End Operatives, Employment and Residence*, (Boston: South End House Association, 1903), pp. 35-36.

[26] *A Tenement House Census of Boston*, Parts I and II, printed in the *Twenty-third Annual Report*, Bureau of Statistics of Labor, The Commonwealth of Massachusetts, Public Document No. 15, 1893, p. 437, (Table).

the Tenement House Census (Table II). Though the prevailing rents, therefore,

TABLE II—NUMBER AND PERCENT OF FAMILIES LIVING IN TENEMENTS IN BOSTON, BY MONTHLY RENT CLASS: 1892

Monthly Rent Class	Families	
	Number	Percent
Up to $9	18,108	25.3
$10–19	36,174	50.5
$20–29	9,116	12.7
$30–49	5,291	7.4
$50 & Over	2,976	4.2
TOTAL	71,645	100.0

Source: A Tenement House Census of Boston, printed in the *Twenty-Second Annual Report*, Bureau of Statistics of Labor, Commonwealth of Massachusetts, Public Document, No 15, 1892, pp. 490-91.

appear to have been within the range of the middle-income groups, the data indicate that the lower middle-income brackets may have been hard pressed.[27]

1900-1915: Unfortunately neither wage nor rent distribution data for Boston were found for the period from 1900-1915. However, some contemporary studies containing rent and income estimates are available to enable us to reconstruct the major groupings with substantial accuracy. Thus, Estabrook's report for the *Boston: 1915 Committee* indicates typical rents in the North and West End slums approximately $11.50 a month and room rents averaging $.90 a week.[28] Probably most slum housing continued to fall below $12 per month. Almost all the general pronouncements during the period on meeting the needs of the unskilled wage earner refer to the necessity of achieving rents ranging from $8-$14 a month. As a matter of fact, a careful survey during 1909 indicated the following predominant working class rents:[29]

TABLE III—PREDOMINANT WEEKLY RENTS OF WORKING CLASS DWELLINGS IN BOSTON, BY SIZE OF DWELLING: 1909

Number of Rooms per Dwelling	*Predominant Weekly Rents*
Two rooms	$1.60–2.10
Three rooms	$1.85–2.55
Four rooms	$2.30–3.25
Five rooms	$3.25–3.90
Six rooms	$3.70–5.30

Source: Forty-First Annual Report, Bureau of Statistics of Labor, *op. cit.*, Table 24, p. 251.

Yet Mr. Hall in arguing against the three-decker type of construction declared that cheap, suitable and relatively non-combustible housing seemed to be available for $25-$45 per month with his typical examples generally cited at a rent of $31.[30] This range appears a little high compared to Robert Woods' estimate for the previous period. At rents equal to 1/6 of income, $1,800-$3,240 would be required to secure these units. Yet it is not unfair to assume that Mr. Hall cited the lowest possible rent in order to make his point. Also it is important to note that dwelling units bringing $20 a month or more were supposed to have risen about 20% during this period.[31] It would seem conservative, therefore, to

[27] This stringency is evidenced also in the discouraged observations of philanthropic company reports. For example, the *1900 Report* of the Boston Cooperative Building Company said, "Since 1892, no new work has been undertaken by the Company . . . [we] have come reluctantly to the conclusion that the price of desirable property . . . almost precludes the erection of new dwellings according to the provisions of the law, which would afford good tenements at moderate rents." Cited in R. E. Miles, "The Boston Housing Situation" *Charities and the Commons*, Vol. 12, No. 1, Oct. 6, 1906, p. 97.

[28] H. K. Estabrook, "Congestion in the North and West End," *Report to the Housing Committee of Boston: 1915*, Appendix A. Actually per capita rents were about $.60 and the reduction, of course, was secured through crowding. p. 2.

[29] The British Board of Trade conducted a survey in 1909 to compare the standard and cost of living of workers in European, American and British cities. The data have been summarized in the *Forty-First Annual Report*, Bureau of the Statistics of Labor, Part III, The Commonwealth of Massachusetts, Public Document No. 15, 1911. "Living Conditions of the Wage Earning Population in Certain Cities of Massachusetts." The rents in Table 2 are somewhat lower than they would have been a few years earlier because of the panic of 1907.

[30] P.F. Hall, "The Menace of the Three Decker," *Housing Problems in America*, Proceedings of the National Housing Association, Vol. V, 1916, pp. 148-50.

[31] *Report of the Commission on the Cost of Living*, Commonwealth of Massachusetts, House No. 1750, May, 1910, pp. 134-36.

estimate monthly middle-income rents to be approximately $12 to $31.

Since income distributions are not available, the middle-income range must be determined from wage schedules for semi-skilled and skilled labor. Typical wage rates, available in several studies and official sources, vary from $14 to $26 per week.[32] Assuming continuous employment, annual income may be estimated to have ranged from $874 to $1,622. This estimate provides for an increase of the income of the family head of 1/5 because of supplementary wage earners. The upward adjustment represents a compromise between the 10% to 12% increase recommended by E. E. Wood[33] and the higher proportions used for the three previous periods based on other studies.

Rent-paying ability of this group ranged from $146 to $270 per annum or $12 to $25 per month. Even if completely satisfactory housing became available at $20 a month, which is much lower than the $25 or $31 cited by P. F. Hall, it is clear that most of this group would have been inadequately served. The situation might have become serious, were it not for the extraordinary three-decker boom which filled most of this gulf. Ranging in price from $12 to $31 and sometimes as high as $45 per month[34] they seem to have served mainly the middle-income group and the fringes on top and bottom. Below par in some respects, superior in others, the three-decker was a telling example of one kind of middle-income housing solution.

1920-1930: War and postwar prosperity improved the economic position of many, but the housing shortage and inflation between 1915-1930 erased much of the gains. Unfortunately, a distribution of families by income was unavailable for the period. The income range for middle-income groups must be determined, therefore, from wage schedules for semi-skilled and skilled workers and salaried employees. These rates ranged mainly between $25 to $43 a week.[35] Assuming once again continuous employment plus an upward adjustment of one-fifth for supplementary wage earners, annual income may be estimated to have ranged from $1,560 to $2,683. Rent-paying capacity, likewise, varied from $260 to $447 per annum. This distribution seems reasonable and possibly somewhat generous, especially if compared with other strands of evidence. Thus, in August 1924 the Massachusetts Department of Labor and Industries indicated that the average wage for male employees in Massachusetts was about $27 a week and Boston's average for skilled and semi-skilled workers was doubtless higher. Edith Elmer Wood also made a relatively comparable estimate, namely $1,600-$2,500, for New York City's middle-income groups during the twenties.[36]

[32] This range is based partly on the table of weekly wages of skilled workers which A. B. Wolfe indicated in his book. *The Lodging House Problem in Boston* (Boston: Houghton Mifflin Co., 1906), p. 98, Table, and pp. 87-99. It is likewise in accord with the prevailing wage rates of $14-$26 (ca) for skilled workers published in 1911. *Forty-First Annual Report*, Bureau of the Statistics of Labor, The Commonwealth of Massachusetts, 1911, *op. cit.*, Tables 1-12, pp. 7-77; also with the declaration of a Treasury report indicating that "two-thirds to three-fourths of the male workers in the principal industries of the United States earn less than $15 a week." B. S. Warner and E. Sydenstridker, "Health Insurance, Its Relation to Public Health," United States Treasury Department, 1916, cited in E. E. Woods, *The Housing of the Unskilled Wage Earner* (New York: The Macmillan Co., 1919), p. 15.

[33] F. E. Wood, *Recent Trends in American Housing* (New York: The Macmillan Co., 1931), pp. 50-51.

[34] The following studies provide rent statistics for different types of three-deckers: *Forty-First Annual Report*, 1911, *op. cit.*, pp. 243; 249-50; P. F. Hall, *op. cit.*, pp. 147-50; E. H. Marble, "The Menace of the Three Decker," *Housing Problems in America*, Proceedings of the National Housing Association, Vol. 5, 1916, p. 324.

[35] See, for example, *Annual Reports*, Bureau of the Statistics of Labor, The Commonwealth of Massachusetts, for the following years: 1921, 1923, 1925, 1926, and 1928.

[36] National income distributions were used as a base with upward adjustments for New York City.

However, it was for the group earning between $28 to $42 per week that the greatest pinch of rent inflation during the twenties was experienced. The Special Commission on the Necessaries of Life reported that, following 1922, "most of the complaints and requests for advice and assistance . . . received by the Commission were in regard to property renting for less than $40 a month."[37] Repeated references were made to the need for construction between $26-$40. Rents for existing apartments, it was claimed, had risen almost to a level with rents for new construction.[38] Judging from newspaper advertisements as well as the somewhat deflated 1930 rent distribution (Table IV),[39] modal rents for the middle-income group probably ranged from $29 to $48 per month.

No detailed record is available for the end of the decade since the life of the Commission was ended despite pleas for continuance. It is clear that much of the housing provided was unsatisfactory. Many landlords, partly to trench on rising costs and partly to make a "killing," had decided to cut corners and failed to provide customary services. By the end of the decade, however, the situation appeared slightly eased since the BLS rent index dropped from 135.4 to 129.7.[40] Income, however, was also declining. If we examine the 1930 Census rent distribution for Boston (Table IV) it is possible to estimate the extent of the rent squeeze even at the tail end of the shortage.

TABLE IV—PERCENT OF FAMILIES BY RENTS IN BOSTON: 1930

Monthly Rent	*Percent of Families Paying Specified Amount of Rent*
Under $10	0.6
$10–14	3.8
$15–19	8.5
$20–29	22.6
$30–49	40.9
$50–74	16.9
$75–99	3.3
$100–149	1.1
$150–199	0.3
$200 & Over	0.4
Not reported	1.7

Source: Computed from the Fifteenth Census of the United States: 1930, *Population*, Vol. VI, *Families*, pp. 601-02.

Approximately 18% of the families paid monthly rents below $22;[41] 34% paid between $22 and $37; and approximately 48% paid rents over $37.[42] Assuming two-thirds of the population could afford a rent of only $37 per month or less, about 15% of the families in the lower and middle brackets paid rents beyond their means. The estimate is possibly conservative because the middle-income range is probably a little high; and because no allowance was made for reduction in incomes and shifting of middle- and low-income classes for the year between 1929 and 1930. Also, the distribution of rents below $40 was probably disproportionate to the distribution of income.

1930-1940: During 1933, when deflationary influences were strongest, the BLS rent index for Boston dropped 24% below the 1925 maximum; by 1936, the decline reached 26%. Then the index started to climb again.[43] For the mid-thirties an income distribution for Boston

[37] *Report of the Special Commission on the Necessaries of Life*, Commonwealth of Massachusetts, House No. 1400, 1925, p. 36.

[38] *Ibid.*

[39] An adjustment of the percentages in Table IV is required because of the higher rents prevailing earlier in the decade.

[40] Bureau of Labor Statistics, "Consumer's Price Index for Moderate Income Famil es," Department of Labor, Washington, D. C., (1914-1948), mimeographed.

[41] *Report of the Special Commission on the Necessaries of Life*, 1925, *op. cit.*, pp. 42-43.

[42] Table IV. The percentages of families in this and the following sentence are derived by interpolation. Equal distribution of families throughout the rent class is assumed.

[43] Bureau of Labor Statistics, "Consumer's Price Index for Moderate Income Families," *op. cit.*

is not available, but the National Resources Committee's analysis of family income indicated that 55% of the families had incomes below $1,250 and 79% below $2,000.[44] Boston's income was undoubtedly higher than the national average and it seems reasonable (in fact, generous) to assume that Boston's middle third probably ranged between $1,300-$2,100.[45] Actually if we examine the family income distribution available for 1939, a period of higher income due to economic recovery and the beginning of defense preparations, we find that 41% of the families fall below $1,300 and 31% are between $1,300 and $2,100, making a cumulative total of 72%.[46] But since this distribution is based on families reporting no other income, it is probably skewed somewhat towards the lower-income classes. A higher estimate also finds support in other directions. First, the Boston region has a more stable economic base than most cities.[47] Second, the WPA cost of living study for Boston in 1935 using the budgetary requirements at maintenance level of a four-person manual worker's family indicated a minimum income floor of $1,353.[48] Also, data available in the National Resources Committee report suggest that the average middle-income third for large cities having a population between 100,000 to 1,500,000 lies between $1,200-$2,000,[49] and Boston, Baltimore, Philadelphia, and other cities probably were higher than average. Moreover, $1,150-$1,300 was about the average income maximum set for eligibility in Boston's public housing projects.[50]

Minimum suitable housing, however, was not available for rents below $25 and probably $30 a month. In the twenties, it will be recalled, complaints multiplied because of the shortages and rent increases that occurred in apartments renting below $40. Rent maxima in Boston's public housing projects also reached up to $26 per month.[51] Approximately 50% of the units renting between $25-$29 were built before 1900; and more than 40% were three-family units, probably the cheaper three deckers.[52] Finally, the Real Property Inventory in Boston listed as "good" dwellings only 23% of the units renting between $25 and $30; and only 43% between $30 and $39.[53] Since

[44] National Resources Committee, *Consumer Incomes in the United States*, (Washington, D.C.: Government Printing Office, 1938), Table 3, p. 18. This distribution excludes the earnings of adult sons and daughters who live at home and pay board.

[45] This range is somewhat lower than the wage rates of $.75-$1.25 for diverse skilled trades in Boston. Most of these rates were "tempo arily inoperative," however, "because of business conditions." Also the yearly earnings are quite different from the actual rates. *Annual Report*, Bureau of Labor Statistics, Commonwealth of Massachusetts. Part II, Time Rates of Wages and Hours of Labor in Massachusetts, Labor Bulletin No. 173, Public Document No. 15, 1935, pp. 3-4 and pp. 5-48.

[46] Sixteenth Census of the United States: 1940. *Population and Housing, General Characteristics, Families*, Table 59, p. 270. The distribution is based on families without other income, since the data for families with other income include income up to $50 and thus are misleading. Adjustments were made in the 1939-income distribution to conform to the above class ranges. Equal distribution throughout the class limits was assumed.

[47] Victor Roterus, "Stability of Annual Employment, Cincinnati and Selected Cities," *Economic Geography*, April 1947, pp. 130-131; and C. Winston and M. A. Smith, "Sensitivity of State Income Payments to Nations' Total," *Survey of Current Business*, January 1946, pp. 6-19.

[48] WPA Division of Social Research, "Intercity Differences In Cost of Living in March, 1935, (59 cities)," cited in E. E. Wood, *Introduction to Housing, Facts and Principles*, (Washington: Federal Works Agency, United States Housing Authority, 1940), Chart 18, p. 110.

[49] National Resources Committee, *Consumer Income in the United States*, (Washington: Government Printing Office, 1938), pp. 23-25 and Tables 7 and 8.

[50] Boston Housing Authority, *Rehousing the Low Income Families of Boston: 1936-1940*, Boston, 1941 (Schedule of rents and Income Allowances) no page citations.

[51] *Ibid.* This represents the highest rents for the largest units and families. These rents, it is true, include utilities; but there is usually a gap between the housing market served by public housing and those families adequately provided for by private enterprise.

[52] Sixteenth Census of the United States: 1940, *Housing Characteristics by Monthly Rent or Value, Third Series*, (Massachusetts), *op. cit.*, Table B-1, p. 13. Note that these rents, unlike the rents for public housing apartments, do not include utilities such as gas, electricity and heat.

[53] "Good" units are the residual number of dwellings after the number needing minor repairs, structural repairs and those not fit for habitation (as well as those not reporting) are deducted. *Report on Real Property Inventory for the City of Boston*, Vol. 1 (Boston: City Planning Board, 1935) Table 2, p. 2.

our derived middle-income group ($1,300-$2,100) required housing priced somewhere from $18 to $29 a month, it appears that a large proportion of this group (possibly more than half) was not too well housed. And despite doubling up and shifts to inferior quarters, the proportion of rent to income was not kept at a reasonable level. According to the data of the Boston Real Property Inventory it has been estimated that 22% of Boston's families paid monthly rents below $18; 32% paid rents between $18 and $29 and 46% paid over $29.[54] Table V, based on Census data at the end of the decade, indicates a still greater discrepancy. About 13% to 23% of the families (depending on the area and type of tenure involved) appeared to be paying unduly high rents, assuming 66% of the families could only afford to pay $29 or less a month.

1940-1947: Economic recovery, defense preparations and then war and postwar prosperity again inflated incomes. Protests against rent and price rises largely ended in 1942 with the establishment of price and rent controls. Shortages continued, however, and construction virtually ended. Postwar inflation following the lifting of controls raised a serious question whether increased real income would actually vanish. In 1948, residential rents still were under legislative control, though increases up to 15% were allowed in 1947. Fortunately, enough relevant data are available for Boston to carry the analysis up to and including 1947.

A carefully prepared extrapolation of the 1946 income distribution for the Boston metropolitan area[55] indicates that 34% of the families had incomes below $2,500, 30% between $2,500 to $4,000 and 36% over $4,000.[56] Because of the obvious price inflation which has pushed up to $2,500 the maximum income limits set for eligibility in Boston's public housing projects, it appears proper to take the group earning between $2,500-$4,000 as representing the middle

[54] *Report on Real Property Inventory for the City of Boston*, Vol. 1, *op. cit.*, p. 6.

[55] R. G. Townsend, *Some Economic Aspects of Urban Housing with Special Reference to Metropolitan Boston* (Ph.D. Thesis), Harvard University, Cambridge, Mass., 1948, pp. 50-51.

[56] Census reports on surveys of the total money income level for families for the Northeastern region are fairly consistent with the above distribution. The Census breakdown is somewhat lower, i.e., 41.2% below $2,500; 30.3% between $2,500 and $4,000; and 28.6% over $4,000. Bureau of the Census, "Income of Non-Farm Families and Individuals: 1946." Series, p. 60, No. 1, *Current Population Reports* (Consumer Income), January 28, 1948, Table 4, p. 10.

TABLE V—NUMBER AND PERCENT OF TENANT-OCCUPIED AND TOTAL DWELLING UNITS FOR BOSTON CITY AND BOSTON METROPOLITAN AREA, BY RENT CLASS: 1940

Shelter Rent*	Boston City				Boston Metropolitan Area			
	All Dwelling Units		Tenant-Occupied		All Dwelling Units		Tenant-Occupied	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
$17 and Under....	33,468	16.2	26,542	17.1	75,168	11.9	55,365	14.4
$18-29.....	68,138	32.8	56,423	36.3	197,227	31.2	144,897	37.7
$30 and Over.....	105,763	51.0	72,491	46.5	359,727	57.0	183,767	47.8
TOTAL.....	207,369	100.0	155,456	100.0	632,122	100.0	384,029	100.0

* The figures for each rent class were derived by interpolation. Equal distribution within the Census rent classes was assumed.

Source: Computed from the Sixteenth Census of the United States: 1940, *Housing, Characteristics by Monthly Rent or Value, Third Series*, Massachusetts, Table B-1, B-3, C-1, C-3, pp. 13, 15, 18 and 20.

brackets.[57] Though we can assume that this group could pay rents ranging from $35 to $56 a month,[58] a 1947 sample Census survey indicated that much lower rents were in effect. Actually 57% of those reporting paid less than $25, 31% between $35 and $50 and 11% paid $50 or more.[59] These data do not show the effect of the relaxation of controls in 1947, or the curtailed services and the extensive use of "bonuses" and other illegal stratagems;[60] moreover, the income ranges are somewhat higher than those of the previous decades because of the greater wealth in the metropolitan suburbs. Nonetheless, the distribution is fairly indicative of the prevailing trend and it is clear that because of the relatively low rents considerable cost of living benefits have been reaped by the middle- and low-income groups. It is not altogether certain in what form the improvement came. Rent controls and increased income created two major possibilities; (a) higher real income because of reduced relative rent; (b) better housing by paying a higher price or rent. Since one may question how much better housing was available in time of shortage, it appears that the real income effect was probably the more important influence. Yet, despite price advantages and the possibility opened for many to procure better housing, the obvious joker was the housing famine which left 40% of the married veterans in the Boston area (and many civilians) in an even worsened position.

3. Rents and Income for Minimum Standard New Construction

Up to this point, comparisons have been made primarily between derived income of the middle-income group and the prevailing rents for minimum standard existing housing of the period. Rents for new construction would indicate whether the middle-income group was directly served. The price levels at which new units are introduced into the market and the volume produced will determine the need for reliance on second-hand housing through the filtration process. Surplus accommodations and decline of value are essential prerequisites enabling filtration to occur, and filtration generally becomes increasingly ineffectual for income groups appreciably below the point where it is supposed to begin.[61] The extent of the dependence on this indirect supply mechanism may therefore be used as a partial measure of the builder's efficiency in serving the market.

To undertake this analysis, rents for apartments in newly built, low-cost housing will be compared with the income ranges already worked out in the

[57] Mr. John Carroll has pointed out that in September 1947 the average earnings of 117,790 wage earners in Boston, according to a survey by the Massachusetts Department of Labor and Industries, were $46.30 a week, or $2,407.60 per year. This average, however, may be a little low because it includes single persons making the average income lower than that of married workers. Mr. Carroll did point out, however, that the middle-income group probably earned between $3,000 and $4,000 per annum. *Hearings Before the Joint Committee on Housing*, 80th Congress, 1st Session, Part 3, p. 2,488; and p. 2,479.

[58] These figures are consistent with the 1946 Census survey of veterans' needs in the Boston area which indicated that veterans planning to rent reported they were able to pay $44 for a 5-room apartment, their average weekly income being approximately $45. Those veterans who would buy or build (our top stratum of the middle-income group) reported an ability to make a gross monthly payment of $65 a month for a six-room house with an average weekly income from all sources of $57. *Cf.*, Bureau of Census, "Survey of World War II Veterans and Dwelling Unit Vacancy and Occupancy in the Boston Area, Massachusetts," *Population*, H-Vet No. 19, Department of Commerce, October 30, 1946, p. 1.

[59] Bureau of the Census, "Housing Characteristics of the Boston, Massachusetts Metropolitan District; April, 1947, *Current Population Reports: Housing*, Series P-71, No. 2, Washington, July 1947, Table 2, p. 6.

[60] *Cf.*, S. J. Maisel, "Have We Underestimated Increases in Rent and Shelter Expenditures," *The Journal of Political Economy*, April 1949, pp. 107-118.

[61] R. U. Ratcliff, "Filtering Down," *Journal of Land & Public Utility Economics*, November 1945. See also M. Colean, *American Housing, Problems & Prospects* (New York Twentieth Century Fund, 1944), pp. 182-85. Note that more intensive use of the structure might also be a factor which would produce surplus accommodations.

preceding section. Rent estimates gleaned from fairly reliable contemporary sources provide an index of inexpensive construction obtainable during the period under review. Typical examples of low cost construction will be cited and/or the probable range of costs estimated. Since the purpose of the analysis is to determine whether the middle-income groups were directly served by private construction, the complexities growing out of variations in type and quality can be ignored.

Judging by the newspaper ads the yearly rent cost per room for new minimum standard housing in 1846 ranged from $25 to $35. It seems correct to estimate rents in newly built three- to five-room tenements for the middle-income group as averaging between $90 and $175. During the '70's the Boston Cooperative Company built its model housing. Rents in the East Canton Houses containing 125 tenements ranged from $156 to $247 per annum for three and four room units;[62] and there is reason to believe these rates were approximately characteristic of rents for minimum standard new construction.[63] In the nineties, Robert Paine reported that prior to the enactment of the law of 1897 requiring fireproof construction for all tenement buildings, tenements renting for $16 a month or less could be constructed.[64] A range of $180-$264 results if a rent of $15 a month is taken as the low point and if R. F. Phelps' estimate of $22 is considered the prevalent high rent for skilled workers in the center of the city.[65] During the three-decker period (1900-1914), new houses in Boston, according to the comprehensive British Board of Trade survey, were made available generally at rents ranging from $14-$35 per month.[66] For the decade following World War I rents for new apartments generally ranged from $49-$60 a month.[67] Between 1930-1945 relatively few units were built and most of these were for higher-income groups. It is doubtful whether rents lower than $35-$45 a month were achieved.[68] Up till 1948 postwar private construction has been supplying houses at rents ranging from $80-$100 per month.[69]

IV. Summary of Rent Income Trends

Table VI and Charts I & II summarize the rent and income data. For the purpose of analysis and comparison equal distribution throughout the class intervals has been assumed.

[62] *Fourth and Fifth Annual Reports*, Boston Cooperative Building Co., Boston, 1875, 1876, p. 3; The average cost of of 13 houses built by this company in Dorchester for "American mechanics and those in sympathy with them" was $1,840. A down payment of $200 was required plus $25 a month and the company hoped to serve those earning between $800-$1,000. *Ibid.*, pp. 5-6.

[63] R. T. Paine, "The Housing Conditions in Boston," *Annals of the American Academy of Political and Social Science*, July 1902, p. 25. J. Quincy also referred to the possibility of building cheap houses in the country for the poor at a cost of $1,000. *Second Annual Report*, Bureau of Labor Statistics, 1871, op. cit., pp. 530-31. In an analysis of the problem of building homes for workers through building and loan associations (cooperative banks), Mr. Paine estimated tenement rents for 5 rooms in 1880 at $17 a month whereas he hoped to bring it down to $14. If we use this as the range, it would amount to $168 to $204, R. T. Paine, "Homes for the People," *op. cit.*, pp. 16-17.

[64] *Ibid.*, p. 129.

[65] R. F. Phelps, *op. cit.*, pp. 35-36.

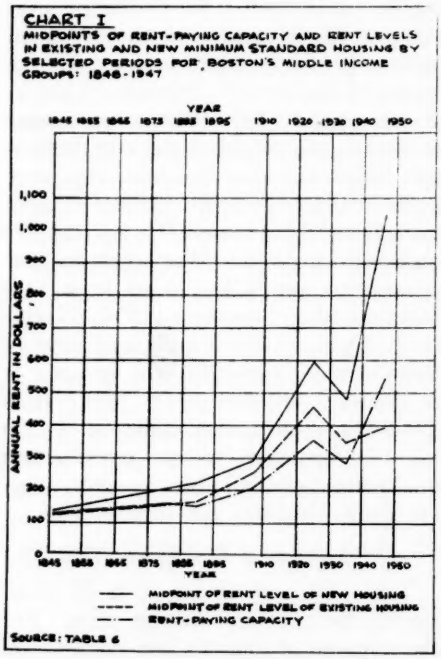
[66] *Forty-First Annual Report*, Bureau of Labor Statistics, Part III, The Commonwealth of Massachusetts, 1911, *op. cit.*, pp. 249-50; 240; also P. F. Hall, *op. cit.*, pp. 147-159; and E. H. Marble, *op. cit.*, p. 324.

[67] *Report of the Special Commission on the Necessaries of Life*, 1925, *op. cit.*, pp. 36, 37.

[68] The average FHA value of property for one-family homes in the Boston Metropolitan District was $6,437 in 1938 and $6,134 in 1939. The average mortgage value from 1935-1939 was $5,970. Also the average gross monthly payments for one-family homes in 1938 and 1939 was $47.86 and $47 respectively. Federal Housing Administration, *FHA Homes in Metropolitan Districts* (Washington: U. S. Government Printing Office, 1942), p. 39, Table 2 and Table 10.

[69] Report of a Subcommittee of the Joint Committee on Housing, *High Cost of Housing*, 80th Congress, 1st Session, Washington, 1948, Tables 15, 16, and 17; and pp. 41,43 and 54. See also *Partial and Preliminary Report of the Special Commission Relative to the Immediate Relief of Traffic, Housing, Street Lighting and Recreational Conditions of the City of Boston*, House No. 1,741, December 3, 1947, p. 12; and Final Majority Report of the Joint Committee on Housing, *Statistics of Housing*, 80th Congress, 2nd Session, House Report, No. 1,564, Part 2, Washington, 1948, Table 53, p. 149.

Several significant trends are disclosed. Beginning about 1890 a greater percentagewise increase of rents in new and existing houses than in total family income



is evident. From 1845 to 1940 rents in existing dwellings increased about 281% compared to an increase of 224% in family income. Rents for new low-cost construction increased during the same period 361% or about 61% more than the corresponding increases of income and 29% more than the increase of rents for existing dwellings.[70] Only during World War II and the postwar period under rent control has this trend been reversed, but only so far as existing dwellings are concerned. Income then increased approximately 428% whereas

[70] This experience of higher costs for new construction is confirmed by Paul Douglas' study which indicated "that in periods of rising prices, rents increase more slowly than either the general price level or the costs of building." P. H. Douglas, *Real Wages in the United States* (Boston: Houghton Mifflin Co., 1930), pp. 39-40.

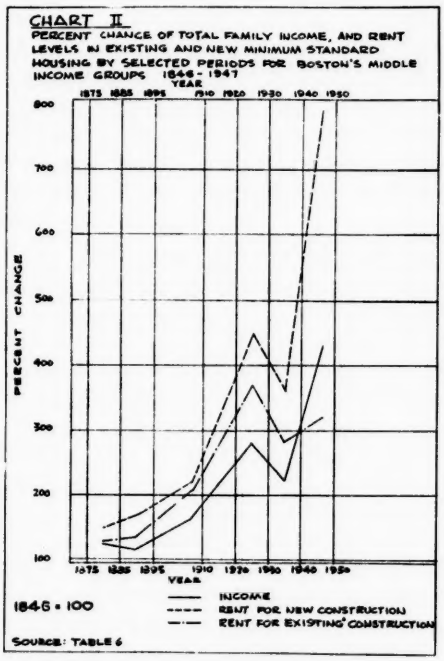
TABLE VI—ESTIMATED AMOUNT, MIDPOINT AND PERCENT INCREASE OF TOTAL FAMILY INCOME RANGES AND RENT-PAYING CAPACITY OF MIDDLE INCOME GROUPS AND RENT LEVELS AND PERCENT OF RENT TO INCOME FOR EXISTING AND NEW MINIMUM STANDARD HOUSING IN BOSTON, BY SELECTED PERIODS: 1846-1947

Period	Total Family Income(a)			Annual Rent-Paying(b) Capacity		Rent Level for Existing Minimum Standard Housing				Rent Level for New Minimum Standard Housing			
	Range	Mid-point	Index 1846-100	Range	Mid-point	Range(a)	Mid-point(c)	Index 1846-100(c)	% of rent to Income	Range	Mid-point	Index 1846-100	% of rent to Income
1846	$ 458–934	$ 759	100.0	$97–156	$127	$91–156	$124	100.0	16	$90–175	$133	100.0	18
1875–1885	700–1,200	950	125.0	117–200	159	100–215	158	127.0	17	156–247	202	152.0	21
1885–1895	693–1,109	901	119.0	116–185	151	132–204	168	135.0	19	180–264	222	167.0	25
1900–1914	874–1,622	1,248	164.0	146–270	208	144–372	258	208.0	21	168–420	294	221.0	24
1920–1930	1,560–2,683	2,122	280.0	260–447	354	348–576	462	372.0	22	480–720	600	451.0	28
1930–1940	1,300–2,100	1,700	224.0	217–350	284	276–420	348	281.0	20	420–540	480	361.0	28
1946–1947	2,500–4,000	3,250	428.0	417–667	542	312–480	396	319.0	12	900–1,200	1,050	790.0	32

(a) See text for derivation. (b) Rent-paying capacity is based on 1/6 income. (c) These derived rents apply to 3 to 5 room units.

rents for existing dwellings rose only 319%. Rents for new construction, however, which were not subject to controls rose 85% more than income and 148% more than existing rents.

The data may also be used to measure the proportion of rent to income for new



construction. This ratio steadily increased from 18% in 1846 to 28% in 1940 and 32% in 1946-47. For existing housing a similar, significant increase occurred, though much less marked. Rents rose from 16% to 17% in the two periods prior to 1900 to 22% in 1920-1939 and 20% in 1940. Decreases, however, occurred during the depression of the thirties and also under rent controls.

Up to World War I, the data indicated that building directly for at least a portion of the middle-income groups was possible. Thus the rents for new minimum standard low-priced construction were within the annual rent-paying capacity of *some* of the middle-income groups for the first four periods. Construction for these families, however, has largely ceased since the twenties. Some doubts may even be entertained whether direct building for the middle-income groups prior to 1915 actually occurred for all types of houses. The approximate cost of a one-family house with 6 rooms and bath in 1914 according to the Commission on the Necessaries of Life was $3,450.[71] That the price was too high is confirmed by a careful survey of Boston's housing which reported that "single family houses are not being built commercially for those of small means . . ."[72] And in the early nineties, R. T. Paine found that the total construction cost of cheap single family homes ranged from $2,600-$4,500, a price then well beyond average middle-income capacity.[73]

It will be recalled that two important assumptions were made at the outset of this analysis: (1) that a sufficient quantity of housing would be produced to serve the needs of those income groups able to afford the minimum priced housing built; (2) that the norms and judgments of the period studied would be accepted concerning the quality of the housing produced. Also, in deriving the data, an effort has been made to keep the

[71] *Report of the Commission on the Necessaries of Life*, 1920 *op. cit.*, p. 101.

[72] *Forty-First Annual Report*, Bureau of Labor Statistics, Commonwealth of Massachusetts, Part III, 1911, *op. cit.*, p. 244.

[73] E. E. Wood reports that Mr. Paine concluded before his death "that it was hopeless to compete with the jerry-builders of the present day." E. E. Wood, *The Housing of the Unskilled Wage Earner*, *op. cit.*, p. 96. Mr. Paine was well-known for his work with model housing projects. This information is further evidence, by indirection, that jerry-building for lower-income groups was directly undertaken during this period. The point is of special interest because, in 1880, Mr. Paine believed that the building of one-family homes could be done for a monthly outlay less than ordinary tenement rents.

(a) See text for derivation. (b) Rent-paying capacity is based on 1/6 income. (c) These derived rents apply to 3 to 5 room units.

error, wherever possible, in the direction of higher income[74] and lower rents. In short, the trends disclosed rest upon the most optimistic assumptions. To the extent that these assumptions were unrealistic in whole or part for any of the periods surveyed, the probability is that a much less favorable housing situation actually prevailed, in terms of rent paying ability, housing costs and direct construction by private enterprise for middle-income groups.

[74] If errors in favor of higher income occurred a lower percent increase of income might have resulted. The general trend would still prevail but not as markedly. Even if the percentage increases were reckoned from the lower limits of the middle-income range and the upper limits of the rent range, the disproportion between income and rents would still occur for new construction for the period from 1845 to 1940; and of course the housing situation would have been much less favorable than described. It is quite doubtful, however, whether such large errors were made.

Some Factors Relating to Farm Housing in the Northeast

By GLENN H. BEYER*

Introduction

IT is the purpose of this article to describe in some detail farm housing characteristics in the twelve northeastern states of the United States, to point up certain significant characteristics of the occupant families, and to discuss their satisfaction (or dissatisfaction) with existing dwellings.

In order to put the findings described below in a proper frame of reference, a few characteristics of this region should be pointed out. This portion of the nation was one of the first agricultural regions settled in this country. It was settled long before the central and western states. While agriculture in the southeast may have been developed about the same dates, it developed a plantation economy very different from that of these twelve states. In the northeast, immigrants from many European countries—England, Scotland, Ireland, Holland, Germany, Poland and others—established homesteads on small acreages. At least in a part of the region their housing went through three stages: the first was generally a log cabin which usually disappeared in the first generation; the second was a small frame house which sometimes was physically replaced by a "more permanent" house and sometimes kept but used for other than dwelling purposes; the third was the large frame "permanent" house we see today. In some instances examples of the first two can also still be found today.

The farms in this region have been predominantly owner-occupied. The 1945 ratio for the twelve states was: owners, 88.1 percent; tenants, 10.6 percent; and managers, 1.3 percent. Nevertheless, there has been an extremely rapid growth in the urban centers, making the "rural resident" an increasingly more important classification of families.

Methodology

This paper is limited to an analysis of families living on owner-occupied farms. Only in the case of part-time farmers, who sold $500 or more of farm products in 1947,[1] is there overlapping with the "rural resident" type of family, meaning that the family lived in the open country but the head of the household had pri mary employment in a nearby urban area.

The study is based on 607 records taken from farm families which were selected on the basis of Master Sample of Agriculture materials. The universe for the sample is 183,209 families.

The survey of these families was conducted during the months February to June 1948, by the agricultural experiment stations in the states of Connecticut, Maine, Massachusetts, New Jersey, New York, Pennsylvania, Rhode Island and West Virginia, in cooperation with the Bureau of Human Nutrition and Home Economics of the United States Department of Agriculture.

A formal report of the findings including a detailed statement of methodology,

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[1] Families were not eligible to be included in the survey on which this paper is based unless they had sold $500 or more of farm products in 1947.

design of the sampling, quality check and other statistical procedures, together with a copy of the survey schedule, has been published in book form.[2] While there is some additional information in this article not contained in that report, the reader may want to check the published report for the generally more detailed information given there.

Farm House Characteristics

Farm houses in the Northeast region are generally old, large and poorly planned with respect to today's living requirements. Approximately 44 percent of the houses are over 100 years old. Another 23 percent are between 60 and 100 years old. Only 7 percent are less than 20 years old. The median age is 79 years. Most of the farm homes (70 percent) have 2 or 2½ stories. Approximately 23 percent have 1½ stories and only 3 percent are of the 1-story type. They are large, having a median of 7.1 rooms. Only 9 percent have 5 rooms or less, 16 percent have 6 rooms, 23 percent have 7 rooms, 20 percent have 8 rooms and 32 percent have 9 or more rooms.

Almost three-fourths of the houses have both a living room and a dining room (with 18 percent having a living room, a parlor and a dining room), almost half have a pantry in addition to the kitchen, only 58 percent have a bathroom (a percentage which might be considered high only when viewed in the light of the ratio which exists in other regions of the country), and most of the houses have 3, 4 or 5 bedrooms. Not all of these bedrooms are usually used; in most instances 1 or 2 of them are not heated in winter. In addition, 90 percent of the houses have at least 1 porch (of those houses, 57 percent have 2 or more) and 94 percent have a basement or cellar. However, 17 percent of the houses do not have even one clothes closet, and among those having at least one the median number of closets is only 2.1 per house. This is a direct reflection of the age of the houses. Early farm houses in this region commonly used another room, sometimes called a "clothes press," for the storage of clothes.

The houses are predominantly of frame construction (84 percent). No other type is significant in the region as a whole.

Modern equipment has not yet reached many of these homes. Over half of the families use a space heater or other type of stove for heating which is capable of heating only a part of the house; only 46 percent have central heat. Almost half (43 percent) use a wood and coal range for cooking. Another 10 percent use the combination wood, coal and gas type. Only 36 percent have a gas or electric range. While most families have an electric washing machine and electric refrigerator, few have a freezer. The percentage having a fully automatic electric washing machine is negligible.

Characteristics of Occupant Families

By defining a full-time farm operator as one who devotes full time to his farm (having no other employment), it was found that two-thirds of the families covered by this survey fall in that category. The remaining one-third of the families were families where the operator had some other employment.

Whether or not the operator was a full-time farmer or only a part-time farmer was found to have some influence on the family's housing situation. For example, with regard to mobility, families of full-time farmers were found to have lived in their present dwelling a median of 10 years while families of part-time farmers had lived there less than 6 years.

[2] Glenn H. Beyer with the assistance of the Northeastern Farm Housing Technical Committee, *Farm Housing in the Northeast* (Ithaca: Cornell University Press, 1949).

(These figures include only the years the immediate family group had lived in the house. If a son had lived there all his life and had married and was still living there, only the years since he was married were counted.) There was some tendency toward smaller houses among part-time farmers, probably because the houses they occupy are not as old, and more instances where the family had central heating and such equipment as an electric cooking range. Also, there was a trend toward younger families among part-time farmers: the median age of the head of the household was 45 years, compared with 49 years for full-time farmers.

Dairying, of course, is the principal type of farming in these states. Of all the families covered by the survey, the distribution was as follows: dairying, 62 percent; poultry, 10 percent; fruit and nut, 4 percent; vegetable, 3 percent; all other crops, 8 percent; livestock, 3 percent; forest products, 1 percent; and general, 9 percent. Families owned a median of 107 acres of land and rented a median of 34 additional acres.

The median size of family was one of 3.4 persons. Only 18 percent of the families had hired help, boarders or others living with them (who would be considered members of the household, but not members of the family). When the median size of family is compared with the median size of house, an extremely low density ratio of nearly two rooms per person is observed.

Approximately 8 percent of all the farm families are young couples without children, that is, in the first stage of the family life cycle. Another 16 percent are in the "founding family" stage—this stage being comprised of all families having children under the age of 8. The "expanding family" stage (including families at the peak of the family life cycle) contains approximately 44 percent of all families. Families of this type were defined as having some children between the ages of 8 to 17. Approximately 24 percent of the families are in the last stage of the family life cycle; that is, "contracting families" (where the woman is 35 years old or older and there are no children under 18). A total of 8 percent of the families were of such composition that they could not be properly included in any of the above described types.

The economic level of the families covered by this survey was determined by using size of farm business, in the case of full-time farmers,[3] and size of farm business *adjusted on the basis of other employment*, in the case of part-time farmers. Accordingly, 22 percent of the families were in the upper economic group, 57 percent in the middle economic group, and 21 percent in the lower economic group.

Illustrative of a farm in the upper economic group, when operated by a full-time farmer, is one that might have 30 cows, 25 heifers, 200 hens, and 90 acres of crops. Probably 10 or 11 months of hired help would be required on such a farm each year. In the middle economic group it might be one having 15 cows, 6 heifers, 15 hens and 2 hogs, and 45 acres of crops. This farmer probably would have to hire additional help only during the harvest season, if he devoted his full-time to farming operations. In the lower economic group it might be one having 3 cows, 2 heifers, 35 hens, and 39 acres of crops. The farmer might spend only 5 hours per day, on the average, working on the farm, and additional time in other employment. These are merely illustrations that are quite typical. There are other farm

[3] The conversion was made by determining the productive man work units represented by each farm. For explanation of this method see Hart, Bond and Cunningham, *Farm Management and Marketing* (New York: John Wiley and Sons, 1942,) p. 69.

families representing quite different circumstances, such as a "part-time" farmer barely selling $500 of farm products but having full time off farm work which would place him in the middle or upper economic group.

The economic level of the family was found to have a relationship to such factors as the age and size of the house in which the family lived, the length of occupancy, the type of house (to a degree) and the method of heating. For example, the median age of houses occupied by families in the upper economic group was 99 years, in the middle economic group 79 years, and in the lower economy group only 58 years. There are at least two possible explanations for this trend. First, the present house was probably built on the better farms earlier. Families on these farms would be expected to be in the upper economic group. Second, a considerable number of substandard "shacks" have been built in recent years by families in the lower economic group. These same reasons also support the fact that families in the upper economic group occupy the largest houses and families in the lower economic group the smallest. The median-sized house among families in the upper economic group is 7.6 rooms, in the middle economic group, 7.2 rooms, and in the lower economic group, 6.8 rooms. The percentage distribution is shown in Table I.

TABLE I—Percentage Distribution of the Number of Rooms in Farm Houses in the Northeast by Economic Level of Family

Number of Rooms	Economic Group (percent)		
	Upper	Middle	Lower
5 or Less	7.6	8.5	11.4
6	10.9	17.0	17.1
7	18.0	24.2	27.2
8	24.2	18.4	21.3
9	18.9	15.4	14.5
10 or More	20.4	16.5	8.5

The economic level of the family also has its influence on the period of occupancy of dwelling units, especially among part-time farmers. Among this class of farmers, those in the middle and upper economic group appear very mobile, having lived in their present dwelling only 4 or 5 years. Part-time farmers in the lowest economic group, however, were least mobile, having lived in their present dwelling a median of 14 years. (This compares with a median figure of only 10 years for full-time farmers in all economic groups, as pointed out earlier.) This seems to point up the fact that the part-time farmers in the upper and middle economic groups are more frequently of the rural resident type, commuting to employment in urban centers, while those in the lower economic group are in a class barely subsisting on their low farm production and/or other employment.

As would be expected, a higher percentage of families in the upper economic group have a bathroom in their house. The figure is 78 percent, compared with

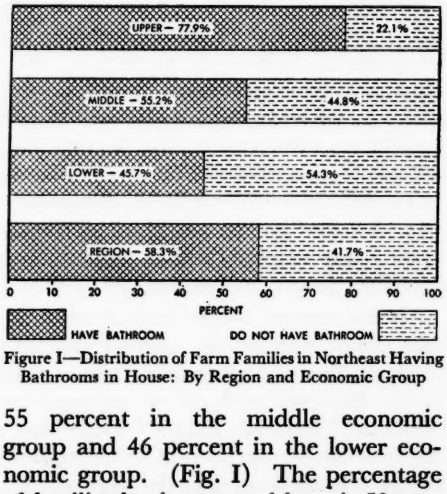

Figure I—Distribution of Farm Families in Northeast Having Bathrooms in House: By Region and Economic Group

55 percent in the middle economic group and 46 percent in the lower economic group. (Fig. I) The percentage of families having central heat is 50 percent and 48 percent, respectively, in the

two highest economic groups, compared with only 34 percent in the lower group.

Finally, climate, topography and urbanization have their influence on the types of farmhouses in this region. The twelve states were divided into four subregions in the analysis of the survey results: The Coastal subregion, comprised of the densely populated area along the Atlantic Coast, between Boston, New York, Philadelphia and Baltimore. The Central, including central and southern New York and part of central, northern and northwestern Pennsylvania. The Appalachian area, covering the remainder of Pennsylvania, western Maryland and West Virginia. And, the Cold North subregion which covered most of Maine, New Hampshire, Vermont, and the northeastern corner of New York.

There were subregional differences in such factors as the age and size of the dwelling, the type of construction, the number of stories, the number of houses having bathroom, pantry, porches and central heat and the period of occupancy by present family, to name only a few.

For instance, the median age of farmhouses in the Cold North was 96 years, compared with between 73 and 80 years in the other subregions. The largest houses are in the Central subregion (median of 7.6 rooms) and smallest in the Coastal (6.7 rooms) with the Cold North and Appalachian subregions falling in between (7.1 rooms and 7.0 rooms, respectively). In the Central subregion, 98.2 percent of the houses are of frame construction, but only 71.4 percent in the Appalachian area and 73.6 percent in the Coastal area are of this type construction. In the last two subregions there are some houses of brick construction and, especially in the Coastal area, some of two types combined; for example, stone houses to which some frame construction had been added. The highest percentage of 1½-story houses is found in the Cold North (60 percent of all farm houses), the highest percentage of 2½-story in the Appalachian area (57 percent of all houses), and the highest percentage of 2-story in the Central area (57 percent).

TABLE II—Percentage of Farm Homes Having Bathroom, Pantry and Central Heat in Four Subregions

Subregion	Bathroom	Pantry	Central Heat
Coastal	79.3	57.5	57.5
Central	57.1	42.3	48.2
Appalachian	52.8	43.4	42.1
Cold North	44.9	47.2	32.2

The highest percentage of houses with a bathroom, a pantry, and with central heat is found in the Coastal subregion (Table II).

An important factor here is the correlation between subregion and income level of the families. The Coastal subregion contained the highest percentage of families in the upper economic group (i.e., 39.1 percent); the Central subregion had the highest percentage in the middle group (66.1 percent); and the Appalachian subregion had the highest percentage in the lower group (25.2 percent).

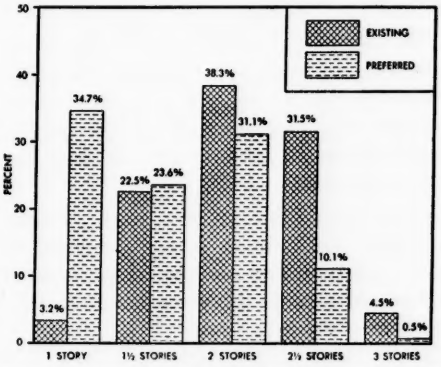

Figure II—Comparison of Existing and Preferred Number of Stories in Farm Houses in Northeast

The influence of certain natural resources can be seen in some instances—

for example, the use of more coal for fuel in the Appalachian area and more wood in the Cold North.

Dissatisfaction of Families with Houses

Families are dissatisfied in many instances with a number of aspects in their present housing. Principal dissatisfaction seems to be regarding the plan or design of their present dwelling. In general, the preferences are toward houses of fewer stories. A comparison of existing and preferred number of stories is shown in Figure II. They also prefer a rearrangement of space. They prefer a utility or work room in which to perform many of the tasks now carried on in the kitchen.

Another common complaint is the lack of storage space. Approximately half of the families desire more storage space—generally in the nature of clothes closets, cupboard space for dishes or space for linens and bedding.

In addition, families now having only a cellar, which does not afford space for carrying on household activities there, prefer a basement which would permit this; almost all families (97 percent) desire a basement.

It is interesting to note that younger families and families where the head of the household had completed more years of school express the greatest dissatisfaction with existing houses.

Summary

In summary, the characteristics of farm houses in the Northeast appear to reflect the age of the structures more than any other factor. There are some important related factors, especially the economic level of the occupant family which has permitted the modernization of some units, and the geographic location which also has had a significant influence on some characteristics. Generally speaking, however, a high percentage of the farm houses in this region was built many years ago and is still being occupied. This factor exerts its influence on the size of the house, the kinds and arrangement of rooms, the type of equipment (to a degree), and so on. The only important percentage of relatively recent farm house construction that has taken place has been in the Coastal area which embraces the densely populated urban centers between Boston and Baltimore. In this particular subregion urban influences have resulted in farm houses that are more nearly similar to their urban counterpart.

This study did not compare the characteristics of the rural houses occupied by farm families with those of houses occupied by other rural families, for example, families of the "rural resident" type. Therefore, it cannot be determined whether the trend toward greater urbanization in this region has left the farm families studied in this investigation with housing units that are much different from those occupied by other families who live in rural areas but are employed in nearby urban centers.

Moreover, this investigation did not study the quality and structural soundness of the dwelling units occupied by the farm families. While there may be some disagreement on this point, there is at least an opinion among certain persons that the farm structures are of such sound construction and stability that they will remain and continue to be occupied for many years. Perhaps only a highly intensified rate of suburban construction, reaching even deeper into the rural areas, could cause many of these units to become obsolete and abandoned.

The fact remains, however, that the amount of new construction of farmhouses in this region will remain negli-

ible in relation to the current inventory. Improvement in the farm housing situation must be in the nature of improvements to existing units. That remains the farm housing problem in the Northeast: how to bring yesterday's house up-to-date to meet the needs of today's and tomorrow's family.

Reports and Comments

The National Bank of Argentina as a Source of Credit for Argentine Farmers†

I. The Objectives of Recent Credit Expansion

AMONG the agricultural credit institutions of Argentina, the Banco de la Nacion Argentina has in recent decades become *the* most important, overshadowing other banks and the activities of merchants and dealers who previously constituted the main sources of credit for farmers. Associated with this rise of the Banco de la Nacion is a long-term effort to improve the agriculture of Argentina and to better rural life.

Founded in 1891 as a semi-public institution, the bank has served since its inception as an outlet for governmental credit. The agricultural activities of the Banco de la Nacion received their greatest impetus from the agricultural credit law (No. 11,684) of 1933 which resulted in the current far-reaching credit activities of the bank implemented by a structure consisting of 275 rural correspondents, 264 provincial branch offices, 21 regional offices, and 26 main branches in the vicinity of Buenos Aires, all guided and supervised by the head office in Buenos Aires.

Although this paper is concerned with the description of the credit structure erected by the bank it is important to visualize the multiplicity of problems that faced the administrators of the credit law of 1933, who were required to undertake an unprecedented expansion in every field of agricultural credit. Such problems were met by an understanding of the objectives of the program. The ultimate goal of the law was to stabilize and improve Argentina's agriculture by rooting her rural people in the land they tilled. An increase in farm ownership was taken as the best means of diminishing the instability and the soil-depleting practices that are associated with tenancy.

The credit policy of the bank not only is designed to improve agriculture but also strives to lend dignity to the individual and to stabilize rural society by raising living standards and furthering cooperation. It is therefore the purpose of the bank to introduce credit in such a way as to strengthen the existing community structure by integrating the bank's program with the existing credit system but taking cognizance at the same time of the needs and capacities of the individual borrower and his family. To reach its social objectives of instilling into the individual a desire to improve himself, the bank has let itself be guided, within limitations, by more than strict business principles. The figures of the bank reveal that, under favorable economic conditions, farmers will in general respond to such a policy and meet their loan obligations.

II. The Overall Record

The program of the Agricultural Credit Department of the Banco de la Nacion is divided into real estate loans, production loans, and loans to agricultural cooperatives. These programs, covering every phase of rural credit, are administered in the field by managers of the branch offices and by regional offices of Loans and Savings located with agricultural cooperatives in regions where adequate credit facilities do not exist. Monthly reports on loan activities are turned into a head office where a section head is in charge of each "type of loan program." Sections heads are responsible to the manager of the Agricultural Credit Department working through a staff of professional and administrative personnel which cooperates with other sections of the bank such as the legal and engineering departments.

A glance at the bank's activities from 1938 to 1947 shows that within that period a total of $3,680,877,000 was loaned to 1,270,232

† This paper is based on material presented in a M.S. thesis at Iowa State College and was prepared under the supervision of Professor John F. Timmons. The author acknowledges his indebtedness to Karl Gertel for helpful suggestions.

TABLE I—NUMBER AND VOLUME OF AGRICULTURAL LOANS, DISCOUNTS AND MORTGAGES, PLACED ANNUALLY: 1943-1947*

(In thousand Pesos)

	1943		1944		1945		1946		1947	
	No. of loans	Amount loaned	No. of loans	Amount loaned	No. of loans	Amount loaned	No. of loans	Amount loaned	No. of loans	Amount loaned
Up to $1,999	106,881	76,481	89,747	62,698	81,513	55,471	70,197	46,523	64,909	45,236
$2,000-$2,999	11,168	28,589	14,026	31,213	12,689	27,945	11,308	24,966	11,819	26,270
$3,000-$4,999	9,038	36,070	11,888	41,659	10,839	37,755	10,633	37,042	13,039	46,776
$5,000-$9,999	6,630	43,132	8,640	51,755	8,638	52,355	9,003	54,836	12,883	81,168
$10,000-$19,999	3,254	41,892	4,243	50,206	4,614	54,493	5,084	59,469	7,372	89,884
$20,000-$39,000	1,127	29,606	1,433	35,382	1,580	39,270	1,837	46,251	2,781	70,254
$40,000-$79,999	340	18,849	535	22,479	525	26,230	640	31,993	1,034	52,271
$80,000-and over	104	15,919	153	25,488	223	41,825	304	56,129	458	69,840
TOTAL	138,542	290,538	130,665	320,880	120,621	335,344	109,006	357,209	114,345	481,699

* Memoria y Balance General, Banco de la Nacion Argentina (Kraft: Buenos Aires, Argentina, 1937), p. 40.

clients.[1] Table I reveals that, though decreasing in recent years, the largest number of loans has always been in the smallest loan group, running up to $1,999. The bulk of the total sum loaned, however, goes to larger-sized loans, particularly those from $5,000 to $19,999. The most numerous type has been the personal loan granted against discounts and mortgages followed in importance by the note with endorsement.

TABLE II—SUMS GRANTED BY KINDS OF LOANS AND TENURE OF BORROWERS: 1945-1947

(In thousands pesos)

Activity	1945	1946	1947
Agriculture (crop farms)	187,422	212,009	306,987
owner-operators	149,006	172,234	234,738
tenants	38,416	39,775	72,249
Livestock enterprises	169,791	174,047	201,469
owner-operators	132,947	137,361	161,478
tenants	36,844	36,686	39,991
Mixed farming	4,845	4,770	5,264
owner-operators	3,434	3,587	3,869
tenants	1,411	1,183	1,395
Cooperative Associations	24,336	31,883	57,356
agricultural	22,260	27,524	50,998
livestock	2,076	4,359	6,358
TOTALS	386,394	422,709	571,076

As shown in Table I, the sharpest rise in the period of 1944-1947 has been in loans to agriculture (crop farming). The rise in the relative importance of loans to crop farms is partly due to the fact that such enterprises are in general smaller and less adequately financed and therefore in greater need of credit from the Banco de la Nacion. The overall increase in loans reflects the increasing specialization and mechanization of Argentine agriculture and the favorable economic conditions which usually lead to expansion of agricultural credit.

III. Types of Loans

Real Estate Loans. The real estate loans of the bank are governed by two laws. The older law is part of the credit act of 1933 which provides for extension of credit to persons buying farms from private individuals, for re-financing mortgages, and for farm improvement. The more recent law (Pub. 12,636) provides for colonization of land acquired by the government for the purpose of increasing farm ownership. The main purpose of both laws is to make loans available to tenants and laborers experienced in agriculture, who want to become owner-operators.

In line with previously-stated objectives, the credit law of 1933 requires careful analysis of the capacity and moral character of the applicant who must express his intention of farming the land he buys. The bank feels that if loans were granted only on the basis of physical security, many good farmers would not qualify. Branch managers are generally well acquainted with the farming area in which they work and usually have a personal knowledge of their clients. The process of

[1] Unless otherwise stated all figures in this paper are given in Argentina's currency, the "peso dollar." The rate of exchange is $3.7313 to the U. S. dollar.

securing a loan usually does not take more than 15 days. Up to 60% of the normal value of the property is loaned for the purchase of land while up to 20% of the normal property value is available for farm improvement. Limits of $100,000 and $20,000 have been imposed on the amount loaned to one person for farm purchase and farm improvement respectively. The normal value of the property for which the loan is made is established by an appraiser attached to the branch office with a group of college-trained appraisers available from the head office in case of special problems.

The schedules of alternative means of repayment is given below. Provisions are made for cases of personal misfortune.

Repayment of Loans for Land Purchase

1. Up to 5 years, 10 percent each year.
2. Up to 10 years, 10 percent each year.
3. Up to 15 years, 5 percent for the first 10 years, 10 percent for remaining 5 years.

Repayment of Loans for Farm Improvement

1. Without mortgage in 5 years at 20 percent a year.
2. With mortgage in 10 years at 10 percent a year.

When this type of loan was established, in September 1935, the bank was flooded with requests. From the years 1935 to 1947, 16,837 loans were granted, amounting to a total of $248,200,000. The bank balance at the end of 1947 indicated that repayment was proceeding ahead of schedule. The bulk of the money loaned, over 82 percent, was taken up by the provinces of Buenos Aires, Santa Fe, Cordoba and Entre Rios, which comprise the the most productive parts of Argentina. Average loans per hectare varied from $2 in the south (18 loans in 12 years) to $240 in the irrigated area of the west (823 loans in 12 years).

At the end of 1946 the bank assumed direction of the colonization program previously in the hands of the National Agricultural Council (Consego Agrario Nacional) and, during the year of 1947, 20 bids were called to acquire land for settlement. Of 207 properties offered, only 29 were accepted; these are located largely in the provinces of Buenos Aires, Cordoba and Mendoza. The Administrators of the colonization program have always been conscious of the difficulties and hardships of colonization and have therefore tried to avoid the pitfalls of unfavorable climate, poor locations, and high cost of reclamation. As shown in Table III, both condemnation and purchase are used to acquire land.

Prospective settlers are screened through a rating system based on experience, age, marital status, and number of children, particularly boys. Graduates of agricultural colleges are given 30 points preference. Title to the land is obtained by the settler upon payment of 10 percent of purchase price based on the price paid for the tract by the bank plus a charge to cover subdivision and other expenses. If the settler cannot make a down payment he may lease the land at 5 percent of which 1.75 percent plus any amount the tenant can save goes into a fund which results in acquisition of title as soon as 10 percent of the purchase price is accumulated. The balance of the payments are made in 33 years at 5 percent, of which 3.25 percent is interest and 1.75 percent goes for amortization. Advance payments can be made at any time and extensions are granted in case of misfortune.

Production Loans. The first production loans, made by the bank in 1912, were mostly for livestock enterprises and not until 1933 did the bank begin its program of production loan expansion which has made it the main source of short-term credit to Argentine farmers today. The sharp rise of short-term loan activities reflects the combination of liberalized terms, rising costs and greater demand for farm production as well as increasing familiarity on the part of the farmers with the services offered by the bank.

Loans are made to all types of farming enterprises and for all purposes of production and marketing that are adapted to the region. Credit is also extended for assistance

TABLE III—TOTAL LAND ACQUISITION AND LAND DISPOSAL AT THE END OF 1947

Means of Acquisition	*Hectares*	*Estimated Value in Pesos*	*Land Disposal*	*Hectares*
Purchase	135,000	33,026,000	Colonized by settlers	205,146
Condemnation	14,000	4,869,000	Subject to subdivision	137,505
Under consideration for condemnation	151,000	38,778,000	For sale	55,919
Acquisition pending court ruling	54,000	18,512,000	Colonies in planning stage	5,904

in meeting rent payments, commercial debt obligations, and family living expenses. Some idea of the relative importance of the main loan outlets can be obtained from Table IV below. Loans for crop production are the most important type, exceeding the amount loaned for livestock production every year since 1933. Over half of the $223,773,000 granted for crop production went for cereals, grains and oilseeds, with corn taking up a total of $84,122,000. Cotton came second, requiring $19,800,000 of loans. The largest item of livestock loans was feeder cattle with loans for dairy enterprises, actively encouraged by the bank, requiring $6,390,000.

Due to the increasing farm incomes of recent years, loans to meet commercial debts and rent payments have dropped from $47,853,000 in 1943 to $36,439,000 in 1947. Subsistence loans usually are granted only in case of real need and the amount of these loans has been declining in recent years. Three-quarters of the amount loaned for marketing went to wineries, which utilize the greatest proportion of Argentina's grape production.

TABLE IV—SHORT-TERM LOANS GRANTED BY THE BANCO DE LA NACION IN 1947

Type of Loan	*Amount Granted*
Agricultural (Crop Production)	223,773,000
Livestock Production	80,268,000
Marketing	8,000,000
Farm Machinery and Work Animals	2,849,000
Mixed Farming	1,190,000
Other Purposes	216,734,000

The average loan runs for about six months at an annual interest rate of six percent. Payments come due at the end of the natural production period when farmers are in a better position to repay the loans, with provisions for extensions in cases of misfortune. As with real estate loans, special emphasis is placed on the managerial ability and moral character of the applicant.

A short-term loan geared to the needs of the farmer, which does not force the disposal of agricultural produce has been a long-standing need in Argentina. It is hoped that the production credit program of the bank, which offers such a loan to the farmer at a lower rate than previously available, will serve to bring about the basic goals underlying all the credit activities of the bank.

Loans to Cooperatives. Every type of loan service available to farmers is also open to agricultural cooperatives organized under the existing law. The only additional requirement imposed by the bank is a periodic inspection to insure sound management and financial stability of the borrowing cooperative. The purpose of the cooperative loan program is to enable farmers to pool their security and to obtain larger loans on more favorable terms and to profit from the economies of large-scale operations. In order to achieve the important social objective of stabilizing rural society, the bank has endeavored to administer the program so as to spread the advantages of cooperation throughout the community.

Loans to cooperatives along with loans to individual farmers have been increasing steadily after the passage of the credit law of 1933. Since that time, a total of $210,320,000 was granted in 97,768 separate loans. More than a third of the money went for seed and harvesting cost and over one-quarter was used for marketing. About 80% of the 9,987 loans granted to cooperatives in 1947 comprising 47% of the 57,356,000 granted that year, were granted through the 20 regional offices of Loans and Savings established in cooperatives serving regions where other adequate sources of credit do not exist. Most of these regional offices are located in the north of Argentina, in the cotton belt area.

Some Hopes and Cautions for the Future

The number of problems, conflicts and dangers that are associated with a nation-wide program of credit expansions as far-reaching as that now in progress in Argentina, are too numerous to mention. Agricultural credit like "easy" consumer credit can lure the borrower into financial ruin if admintered unwisely, and thus bring results that are the exact opposite of the credit program objectives. In the years after the recent war special precautions had to be taken to avoid inflation of the land market and speculation, spurred by government requisition of land for colonization. Through a spreading of the risk and superior reserves, the bank is able to offer credit at rates substantially lower than those prevailing in the commercial market, but such credit must be introduced in such a way that a drastic upset of some local credit institutions is avoided.

It is too early to make a final evaluation of the extent to which the Banco de la Nacion Argentina has achieved its objectives but the record to date is one to warrant encouragement and hope for the future.

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Curricula in City and Regional Planning at the University of Wisconsin

IN the fall of 1945 a University of Wisconsin faculty committee, appointed earlier by the President, initiated its postwar attack on the well-known "vexed question" of the education of planners. Emerged from the work of this interdepartmental committee is a three-strand program of graduate and undergraduate instruction in city and regional planning. The graduate course was established in January 1947 and the two undergraduate sequences were instituted in the spring of 1950.

Background and Viewpoints

These recent developments are the latest phase in a long history of teaching and research at Wisconsin centering around problems of land use and natural resources. On the roster of men who have made distinguished contributions in this sustained effort are the names of Van Hise, Turner, Ely, Taylor, Hibbard, Galpin, Kolb, Commons, Leopold, Wehrwein, Salter, Gaus, and many others. None of these men was a "design man," and for only two or three of them was the urban or metropolitan scene a major focus of interest. Another, essentially separate, thread of history leads back more than forty years to the first offering of city planning work in the College of Engineering; and over the years the names of Leonard S. Smith and Harold F. Janda (professors of Highway Engineering and City Planning) have been outstanding in a record of effective teaching in the design phases of urban planning.

The mere reciting of these better-known names indicates the range and diversity of professional interests and academic departmental ties in a group of men working on various aspects of natural resource and land use problems. Economists, agricultural economists, land economists (rural and urban), sociologists, political scientists, and even historians are found alongside civil engineers, wildlife ecologists, geologists and other "real scientists." Moreover, the present interdepartmental faculty committee on regional planning includes a philosopher, a lawyer, and an educationist, as well as a geographer.[1] Perhaps more than one apprehensive observer among our colleagues asked: "What sort of curricular olla-podrida is likely to be cooked up by such a collection of chefs?"

Nevertheless, at no time did the actual diversity of background and orientations of committee members operate as a large obstacle to agreement on proposals acceptable to, and accepted by, the Division of Social Studies or the University Faculty. In the course of extended discussions the committee reached explicit or clearly-implied consensus on several underlying general propositions:

1. City and regional planning is a *collaborative process* embracing diverse activities and requiring various talents and kinds of educational preparation.

2. No person can be a professional specialist in all such planning activities, and only a few extraordinary men can hope to achieve high competence in more than one or two professions of importance in regional planning.

3. Although no university is ever likely to develop a curriculum for producing "The Planner," the rich educational offerings of this University can be drawn upon effectively to provide (a) a broad general education appropriate as a base for concurrent and subsequent specialization and (b) some degree of specialized education preparatory either to early employment in planning activities or to more extended and intensive professional specialization here or elsewhere.[2]

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[1] Committee-in-charge: Professor Jacob H. Beuscher,* chairman (Law), John W. Alexander (Geography), Fred A. Clarenbach* (Political Science), Horace S. Fries (Philosophy), Russell T. Gregg (Education), Harold M. Groves (Economics), Charles W. Loomer (Agricultural Economics), Thomas C. T. McCormick (Sociology), Raymond J. Penn (Agricultural Economics), Lloyd F. Rader (Civil Engineering), Richard U. Ratcliff* (Commerce), Svend Riemer (Sociology), and William H. Young (Political Science). (* Administrative sub-committee)

[2] As President C. R. Van Hise put it so well almost fifty years ago, ". . . Specialization should begin early but the broadening studies should *not* be discontinued. This rule should obtain not only through the undergraduate course, but in the post-graduate work and during professional life. The specialized work will be better done because of the broad grasp given by the other subjects. The broadening studies will be better interpreted because of the deep insight and knowledge of a certain narrow field." In *Science* (Vol. 16, No. 400, August 29, 1902); reprinted in *Land Economics* (Vol. XXIV, No. 3, August 1948) as "Science and Pragmatics in the Education of Planners," pp. 209-220.

4. This University is well-equipped to offer (a) a course of studies emphasizing *social science analysis* aspects of city and regional planning activities, and (b) a broadened curriculum in civil engineering for students looking toward *municipal engineering and planning* careers in smaller cities especially. 5. The curricular focus (particularly of the social science analysis sequences) should be on substantive issues and processes in public decision-making and action concerning (a) the development of land and other basic resources and (b) the provision of public services closely related to land development and use. (The curriculum is not to be designed to embrace general national or international socio-economic planning or "planning in general)".

The Graduate Course

Shaping a program in accordance with these developing general guides was a task assigned to several subcommittees which have functioned during the past five years. The graduate Regional Planning Course, leading to the degree of Master of Arts or Master of Science in Regional Planning, or constituting a minor for the doctorate, was largely the work of a three-man group of which John M. Gaus was chairman and Richard U. Ratcliff and the late Leonard A. Salter, Jr., were members.

Under the provisions of this course, the study program for each candidate is drawn up in consultation with a faculty committee of three, which includes one professor representing the candidate's major field of interest and two other professors appointed by the Chairman of the Committee on the Regional Planning Course. A study program is constructed in the light of the candidate's undergraduate studies, his work experience, and his occupational objective or plans for further graduate work. Consideration is given to individual needs and capacities in relation to qualifications for employment in administration, instruction, and research in regional planning.

To meet degree requirements, however, a student must have completed, either as an undergraduate or graduate student, certain specified basic courses in five departments (Civil Engineering, Geography, Sociology, Economics, and Political Science). By special permission other courses or work experience equivalent in content and objective may be substituted for one or more of these required basic courses.

Additional requirements for the degree are: (a) successful completion of a year seminar in The Planning Process; (b) at least four additional credits in advanced courses or seminars selected from a limited list of offerings in Economics, Commerce, Political Science, Geography, and Sociology; and (c) successful completion of a project or thesis, preferably involving field work. Ordinarily, the student's project is carried on, or a thesis developed, in connection with the seminar in The Planning Process, with one of the participating professors as major adviser. To qualify for recommendation to the Graduate School for the granting of a degree, the candidate must pass an oral examination covering his thesis project and demonstrate a satisfactory understanding of the planning process and the interrelationships of substantive problems encountered in regional planning.

The three-year experience with this course, involving a dozen degree candidates and more than twice that number of students not candidates for the degree but enrolled in the Planning seminar (led, successively, by John M. Gaus, Coleman Woodbury, and Fred A. Clarenbach), has yielded some indications of the value of the program. Several excellent theses were prepared, and degree recipients encountered little or no difficulty in finding positions in planning organizations. One of the unsolved problems, in fact, is how to get the student to complete the writing of his thesis before he leaves to take a job! Field work, in the City of Madison and its environs and in Racine, has had some highly encouraging educational results. A difficulty here, in addition to that of fitting these time-consuming activities into a graduate student's already crowded schedule, is that of arranging satisfactory ways of financing adequate field work.

A further problem had to do with the undergraduate preparation of students who inquired about or actually embarked on the master's program in regional planning. Many of these students lacked such a large part of the complement of required basic courses that two full academic years would be needed to meet all the requirements for the M.A. or M.S. Several, nevertheless, decided to elect the planning course. Most elected, however, to follow as a graduate major the field of the undergraduate major, in which event the requirements for the master's degree could ordinarily be met in one academic year.

If those students who were earnestly interested in city and regional planning had selected a more appropriate pattern of under-

graduate courses, perhaps preferably including a major in regional planning, more of them might have been "saved" for graduate work and later effective activity in the planning field. Moreover, most of the actual master's candidates in planning could have derived substantially greater benefit from their graduate-period study, had their backgrounds in undergraduate training been somewhat more appropriate. These and other considerations prompted the Committee to draw up and propose two undergraduate major sequences in regional planning, in the College of Letters and Science.

Undergraduate Majors in Regional Planning

In May 1950 the Division of Social Studies approved and established the proposed undergraduate major program in regional planning. The student in this major will choose *one* of two sequences of required courses. Sequence A is concerned primarily with *Urban (Metropolitan) Regions*, Sequence B with *Major Regions*. (The term "major regions" includes any extensive areas, *e.g.*, river basins, defined with primary reference to land-use and other resource-use problems; also states and counties or groups of counties.) The requirements of this major are heavy: credits in sequence A required courses total 58; in sequence B, 59.

Courses required for *both* Sequence A and Sequence B are:

ECONOMICS: General Economics. Outlines of Land Economics. Public Finance (two semesters). Economic Statistics (or SOCIOLOGY: Introductory Social Statistics).
POLITICAL SCIENCE: Constitutional Law. Introduction to Public Administration. Local Planning Administration.
SOCIOLOGY: Modern Population Problems. Planning and Social Organization.
GEOGRAPHY: The Use and Evaluation of Maps.
ART HISTORY: Current American Architecture.
PHILOSOPHY: Philosophy of Social Planning.

Additional courses required for Sequence *A only:*

ECONOMICS: Urban Land Economics.
POLITICAL SCIENCE: Municipal Government.
SOCIOLOGY: The Modern City (or GEOGRAPHY: Urban Geography). Non-statistical Methods of Sociological Inquiry.
COMMERCE: Housing Problems.
DRAWING: Elements of Drawing.
CIVIL ENGINEERING: City Planning.

Additional courses required for Sequence *B only:*

ECONOMICS: Public Utilities.
POLITICAL SCIENCE: Rural Local Government. Government and Natural Resources.
SOCIOLOGY: Principles of Rural Sociology. Rural Community Organization. Methods of Research in Rural Sociology.
GEOGRAPHY: Geography of Anglo-America. Conservation of Natural Resources.

This major in the Division of Social Studies is administered by a Divisional Committee whose membership is identical with that of the administrative subcommittee for the graduate degree course. The chairman assigns one of the members of this committee, or a member of the larger associated committee on regional planning, as adviser to each student electing the major.

Such an undergraduate emphasis seeks to join the essential values of the liberal arts and science program with a thorough study of an important group of public problems in contemporary life. Successful completion of the requirements of this major will equip the student with the basic prerequisites for work as a junior social science analyst dealing with regional planning problems. The undergraduate major or its substantial equivalent is also a solid basis for graduate work leading to a master's degree in Regional Planning.

Combined Course in Civil Engineering and City Planning

The idea of establishing a combined course in civil engineering and city planning originated in the interdepartmental Committee on the Regional Planning Course. At a Conference on City and Regional Planning held in Madison in December 1949, attended by professional planners in the state, other local and state officials, and University faculty members, an outline for such a course was favorably received and discussed. Shortly thereafter a curriculum proposal developed by a subcommittee of the interdepartmental Committee was approved by the full Committee and transmitted to the Department of Civil Engineering and the Dean of the College of Engineering. After some modification, the proposal was presented by the Dean in June 1950 to the University Faculty, and the course was then established by vote of the Faculty.

The five-year combined course is designed to provide professional training in city

planning for students enrolled in the civil engineering course. Two degrees are to be granted normally at the end of the fifth year: Bachelor of Science in Civil Engineering and Bachelor of Science in City Planning.

The requirements for the degree of Bachelor of Science in City Planning consist of the requirements for the degree of Bachelor of Science in Civil Engineering *plus* certain other courses to be taken normally during the third, fourth and fifth years. These additional required courses are:

CIVIL ENGINEERING: City Planning. Advanced City Planning. City Planning Design. Municipal Engineering Practice. Traffic Control. Airports.
ART HISTORY: American Architecture.
GEOGRAPHY: Urban Geography.
SOCIOLOGY: Modern Population Problems. Planning and Social Organization.
ECONOMICS: Economic Statistics. Outlines of Land Economics. Urban Land Economics. Public Finance.
POLITICAL SCIENCE: Municipal Government. Local Planning Administration.
SPEECH: Public Speaking.

This combined course is designed to provide needed professional training for civil engineering students who expect to engage in municipal engineering work and city planning. A man with this "deluxe" training may be especially valuable in the small city or the good-sized village which cannot afford to hire both a municipal engineer and a full-time professional planner. All too often the "plain engineer" is hired and the municipal planning functions are handled much less satisfactorily than might be the case if the engineer were more broadly equipped to lead or to participate more effectively in the highly important tasks of long-range municipal planning.

These recent curricular developments clearly are not spectacular or revolutionary. They are modest efforts to utilize existing resources of the University to meet some of the growing needs for better-prepared personnel in governmental agencies and other organizations concerned with city and regional planning. Although a great deal of thought and discussion preceded their adoption, they are definitely regarded as experimental. Minor or major changes are to be made promptly when experience indicates the desirability of further change. Indeed, the difficulties and dangers of seeking to build curricula in planning almost wholly from pre-existing course offerings, and without departmental identity or any budget, may lead to radical change or conceivably even to eventual lapse of the program. Whether the various factors which have impeded the establishment of the new degree courses and majors will seriously interfere with the freer testing of the idea of the program is a question to be answered in the future.

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A Reply from England on the Effects of the British Town and Country Planning Act, 1947

Editorial Note: Mr. Frank Hellings, Solicitor, of London, recently has written to Paul F. Wendt, author of the article on "Administrative Problems Under the British Town and Country Planning Act of 1947," which appeared in the November 1949 issue of *Land Economics*. His comments on the tentative conclusions reached by Mr. Wendt in this article are worthy of note and, though not written originally for publication, Mr. Hellings has granted permission for Mr. Wendt to quote and incorporate them in the following note. Mr. Wendt's introduction is in the form of a brief summary of the conclusions reached in the original article. He then takes up each of the original conclusions and quotes Mr. Hellings' comments thereon.

IT was concluded that the effects of the British Town and Country Planning Act were difficult to predict because of the collateral effects of other legislation and because of the wide administrative latitude permitted under the law. The criticism was made that the law and regulations provided no uniform, fair and accurate method for determination of the various value estimates required by the statute. It was further concluded that the law would result in high administrative costs, confusion and injustices on a wide scale, and that it would furnish a strong deterrent to private initiative in

British land development. Assuming that the amount of the global fund was unchanged and that development charges were assessed at 100 per cent of the difference between Consent and Refusal values, the author hazarded that ten specific effects were likely to result from the law.

1. Private development of land will probably be discouraged. "It is quite true that the private development of land is discouraged under today's conditions, but it is by no means entirely due to the effect of the 1947 Act. Nothing can be built save under license from the Ministry of Works, or Local Authorities so far as they have delegated authority from the Ministry of Works and, in the case of industrial buildings, with the certificate of the Board of Trade, and the real snag is the effect of the Building and Housing Materials Act, 1945. Shortly, this Act provides that where *residential* accommodation is put up under license, there is attached to the license what is known as a 'licensed letting or selling price.' The owner may not (under severe penalties) sell or let the houses, flats, etc., for more than this licensed selling price. It is, of course, driving a good deal 'under the counter,' particularly in the case of sales of comparatively small properties where another £500 or £600 can easily pass in notes, but it nevertheless has a very definite inhibiting effect on the owner and in the case, for instance, of a block of flats owned by a responsible public company, the restriction works. It would not be so bad if the licensed letting or selling price took into account a sensible profit, but when the accommodation is to be let, the Local Authorities tend to think in terms of a 5-percent return on the capital expenditure. This capital expenditure is made up of three elements: The restricted (in some cases, agricultural) value of the site, plus the Development Charge, plus the cost of the bricks and mortar with a small profit of, at the most, 10 percent of that cost. So far as the licensed selling price is concerned, the selling price is the total of these three elements and no more. All that a builder gets if he builds to sell is his money back on the land, and the cost of the building plus 10 percent. When he builds for letting, he gets no more than 5 percent on the overall figure. In these days, when everything that is put up can be sold or let, a 5-percent return is still too small. A man might just as well invest £100,000 in Gilt-edged and get £3,500 a year, as invest it in a building with all the attendant troubles of maintenance and the risks of the property market, for the sake of £5,000 a year, for the difference of £1,500 will largely disappear in taxation."

2. Under conditions of active housing demand, the imposition of development charges will probably result in higher market prices for land and higher housing priced for private development. "I doubt if this is true. But what is happening—and it illustrates yet another example of the braking effect of the 1947 Act—can best be shown by an illustration. A firm of builders wish to buy a large, severely bomb-damaged house —or rather the ruins of it—in a residential square in London for the erection of a block of flats. They approach the District Valuer for an informal estimate of the Development Charge which will be attracted by the operation and are told that this is £15,000. They point out that the owner's selling price is £25,000, so that the overall cost of their purchase (before they start putting bricks and mortar together) is £40,000. They complain, rightly, that the proposition will not stand this capital expenditure and say that if the Development Charge is maintained at £15,000 they will drop the project. The District Valuer's answer is short and simple, and it is to the effect that it is not his figure of £15,000 which is wrong but the owner's selling price of £25,000, and he suggests that the builders go back to the owner and see if he will take £20,000—at an overall cost of £35,000 the proposition is, admittedly, economic. The owner refuses to sell for less than his figure of £25,000, the builders reject the proposition as a whole and complain that their development is being held up by the District Valuer. It is very arguable indeed that it is not the District Valuer who is wrong but the owner; but that, unfortunately, does not make the owner sell at less than £25,000, so no development takes place."

3. The law is prejudicial to the financial interests of the owner of undeveloped land as compared with the owner of land already developed. "This is undoubtedly true. It is particularly noticeable that owners of factories which were built pre-war, and which are still structurally sound and functionally efficient, can command a high price whether for sale or for letting. This is partly because of the difficulty of obtaining licenses to build new factories and the acute shortage which exists

today. Again, no one can today build a hotel at an economic price because the joint effects of the high cost of building and the high wages to be paid to employees under the Catering and Wages Act have virtually made the building of new hotels completely uneconomic. The owner of an existing hotel can cash in."

4. Private owners holding property well adapted to conversion will benefit from rising prices for such properties. "This is true and particularly so because of the considerable market which exists for flat accommodation and the large number of obsolescent houses which exists in London. The servant problem has made the Victorian house a hopeless proposition for all save the few who are millionaires, and the conversion of these houses is proceeding with some speed. But you will see what sometimes happens in the example I gave in 2 above."

5. Owners of land subject to probable public acquisition will be subject to unfavorable financial consequences. "This is very true—principally because District Valuers are extremely conservative and an owner compulsorily acquired never gets that little more—and how much it may be—that will be paid by a purchaser who wants a particular property in a particular position or for a particular reason."

6. Public development of land will be facilitated through lower land costs under compulsory acquisition. "True, but so far it has often been offset by the higher cost of public development vis-a-vis that of private, competitive enterprise."

7. The imposition of development charges on industrial land development will add to costs and consumer prices. "I doubt if there is anything in this. I have said above that District Valuers are conservative, and generally speaking the Development Charges imposed are not high. In any case, the all-in cost of the site is often unimportant to a manufacturer. You can see that it can be so if you bear in mind the fact that even the rack rent (i.e., 'occupational' rent of site and buildings) is often no more than 1 percent of the manufacturer's turnover—and frequently less. The effect on prices to the consumer is negligible, if it exists at all."

8. Variation in valuations and charges among districts will have substantial effect upon geographical patterns of building. "This is true: one of the things which all District Valuers (who are officers of a central department i.e., the Inland Revenue) are working for is a national code so as to obtain and preserve uniformity throughout the country, allowance being made for the peculiar geographical advantages of certain areas for certain types of industry. They are far, from achieving it."

9. Strong political pressure can be foreseen in favour of increasing the amount of the global fund and raising the estimates of refusal values, thus permitting higher payments for compensation and reducing development charges. "I don't think any Party will attempt to raise the global fund of compensation—you will find that the Surveyors' Memorandum has a good deal to say generally on this subject. However, the present fund of £300m. may go a lot further than we thought it would when it was first provided, and for an interesting reason. You will remember that certain land which falls within the requirements of Section 80 of the 1947 Act may be developed without payment of a Development Charge while, at the same time, no claim for compensation lies against the fund, (this is the 'dead-ripe' section). Now it was obvious to the draftsman that the land which the property market regarded as commercially 'dead-ripe' was the land which was going to be developed in the early years following the 1947 Act, and the more land which came within the section, the less there would be to collect in those early years by way of Development Charge from that same land. The draftsman, therefore, drew the section as tightly as he could, and he over-reached himself. As it stands in the Act it was almost unworkable. The result has been that in order to make it work and to give builders and property owners (who are, after all, voters) a square deal, a great deal of land has been accepted as within the section, when by the strict application of the law it did not deserve it. Many thousands of acres must have been included in circumstances which I can only describe as 'doubtful' (only the Ministry could tell the truth of the figures and they won't tell!) The result is that in respect of all this land no claim can be made against the £300m. and, *as a corollary*, the £300m. will go a good deal further in meeting the claims made against it. At the same time, it means that the Central Land Board will not be able to collect Development Charges in respect of the development of this 'dead-ripe' land, so you may say that Government practice has benefitted the £300m. at the expense of the Central Land Board."

10. Current tendencies in the market for land prices to rise without regard to the Act will probably continue and result in lowering development charges, since the latter are calculated as the difference between consent and refusal values. "No. While industrialists (for the reasons I indicated in 7 above) are often prepared to pay almost any price for a site, and all land with a 'dead ripe' certificate has also shown a tendency to rise in value, there is not much indication that vacant land prices generally will rise, nor can I see how they very well can do. What has risen is the Development Charge, largely, perhaps as a result of the devaluation of the £. and certainly as a result of the lower purchasing value of the £. in England (16/–d. in March 1950, as against 20/–d. in March 1945), all values in terms of the £. are going up and Development Charges keep pace with this general tendency—here we have a pretty example of the rising spiral! This really applies to vacant land. Where the property is land *and buildings* the Refusal Value will follow the general upward trend but not so as to encroach on the development charge, for the Consent Value also is higher."

Mr. Hellings' comments appear to emphasize the uncertainties created by the law among owners and developers and the differential incidence of the law's various provisions upon the owners of developed and undeveloped land and particularly the apparently arbitrary use of the "dead-ripe" section to benefit some land owners.

The following selected conclusions and recommendations contained in *A Memorandum on the Town and Country Planning Act, 1947*, published by the Royal Institution of Chartered Surveyors in May 1950, appear to substantiate many of the observations above. (Paragraph numbers refer to those in the *Memorandum*.)

105. "In order to assist the more successful administration of planning under the 1947 Act, it is essential to gain general acceptance and public appreciation of its purpose, and above all, to remove, by practical example, the present frustrating impression that the development charge system is an instrument of taxation rather than an element in the scheme to solve the 'compensation-betterment' problem."

275. "Flexibility of planning is good—provided it is not carried to the point where it demands too great a sacrifice of that certainty which breeds confidence in land holding, and upon which, in the past, the greater part of development has been founded. Uncertainty and frustration must not impede development. . . ."

279. "It is an attractive theory to centralize through the Central Land Board the making of payments for depreciation of land values and the collection of development charges, and to remove from individual local authorities much of the financial burden of effective planning. But the scheme in its present form is not working in practice because the severance of development values leaves the landowner without any incentive to sell his land voluntarily at its existing use value. . . ."

280. "It is essential that any scheme of State Acquisition of development values should be so devised as to sustain an incentive to sell land for approved development. It should also be capable of implementation without causing actual, or supposed, injustice. . . ."

281. "Claims for depreciation of land values on the basis prescribed by the 1947 Act should rank for payment in full, without restriction to grounds of hardship or the limitations of a global sum. The Act has the effect, in practice if not in law, of transferring proprietary rights from the individual to the State in circumstances which the Uthwatt Committee visualised would carry a right to compensation as such. Uncertainty as to the amount of compensation is already showing harmful effects. . ."

328. "In order to induce transactions in land, and so facilitate the realization of development plans, development charges should be levied at less than 100 per cent of the increase in value due to the benefit of planning permission; the actual rate of charge being such uniform percentage as will, from time to time, secure the transactions in land necessary to enable development to take place. . . ."

329. "The statutory basis of valuation for development charges should be as definite as possible, and it should be plainly stated in terms similar to those used in the Second Schedule to the War Damage Act, 1943, that 'value of land' in this connection means the amount which the fee simple of the land in possession might be expected to realise in the open market. . . ."

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Commission on Migratory Labor Study

OF interest to journal readers is the announcement of the appointment on June 3, 1950, by the President of the United States, of a commission "to inquire into and report" on the following:

(a) whether sufficient numbers of local and migratory workers can be obtained from domestic sources to meet agricultural labor needs and, if not, the extent to which the temporary employment of foreign workers may be required to supplement the domestic labor supply.
(b) the extent of illegal migration of foreign workers into the United States and the problems created thereby, and whether, and in what respect, current law enforcement measures and the authority and means possessed by federal, state, and local governments may be strengthened and improved to eliminate such illegal migration.
(c) problems created by the migration of workers, for temporary employment, into the United States, pursuant to the immigration laws or otherwise.
(d) social, economic, health, and educational conditions among migratory workers, both alien and domestic, in the United States.
(e) responsibilities now being assumed by federal state, county and municipal authorities with respect to alleviating the conditions among migratory workers, both alien and domestic.

At its present stage of progress this commission has significance primarily as a news item but the caliber and professional standing of its membership suggests the possibility that their study may bring forth valuable light on these vexing problems which beset our economy. Testimony is currently being presented in regional hearings which is contradictory as to the actual necessity of bringing into the United States agricultural laborers from abroad. Particularly significant has been the well-nigh unanimous agreement that the illegal entry of workers from Mexico, which it is believed aggregated over 500,000 in 1949, should be drastically reduced and more effectively controlled.

Hearings have been held by the Commission at Brownsville and El Paso, Texas; Phoenix, Arizona,; Los Angeles, California; Fort Collins, Colorado; Trenton, New Jersey; Memphis, Tennessee; Saginaw, Michigan and Washington, D. C. Other hearings are scheduled for West Palm Beach, Florida and Portland, Oregon.

The membership of the Commission is: Maurice T. Van Hecke, Professor of Law, University of North Carolina (Chairman); Noble Clark, Associate Director, Agricultural Experiment Station, University of Wisconsin; William Leiserson, labor mediator, former chairman War Labor Board, Washington, D. C.; Robert E. Lucey, Catholic Archbishop, San Antonio, Texas; and Peter H. Odegard, Chairman, Department of Political Science, University of California, Berkeley. The Commission is expected to make its first report to the President not later than December 15, 1950. *Land Economics* will devote some space in a future issue to the results of the work of the Commission.—*Editor*

Erratum

Hallstein Myklebost, of Blindern, Norway, author of the article on "Population Forecasts by Simple Methodology" (August 1950 issue of this *journal*), writes to suggest changes and corrections to clarify certain ambiguities of meaning in his original article. These are: *p. 308, right column, 10th line from the bottom:* "One must also clarify the changes which have taken place in recent times, and try to bring to light trends which may continue. *Obviously, one cannot simply assume that development will continue to be the same;* but knowledge of what has taken place is the principal means of foreseeing future conditions." *P. 309, right column, 25th line from bottom,* name of town is *Bodo. P. 310, left column, 19th line, conditions* instead of *restrictions.* And the following sentence should read, It is *not* easy.

Book Reviews

Transforming Public Utility Regulation. By John Bauer. New York: Harper & Bros., 1950, pp. 367. $5.00.

Dealing principally with aggregate allowable earnings, Dr. Bauer proposes significant revisions of public utility regulation. The center of attention is the familiar problem of fair property value and fair investor return; and the essence of his solution is a specific accounting record of values, achieved by putting the "desired" values there and designed to make a rate case an easy clerical process. This solution is a product of his experiences, and is intended apparently as an extension of the Hope Natural Gas decision. Addressed to policy-makers rather than "economists or technical experts," the book obviously may be more useful to some other people than to economists.

Dr. Bauer emphasizes "adoption of clear objectives, appropriate standards, and means for exact and systematic administration." If the book has key words, they are such ones as "exact, factual, and systematic." Indeed, such diction as precise (or variants such as definite, decisive, certain, specific), and regular (or continuous, prompt), and systematic (or manageable, practical) appear again and again. Yet, in sharp contrast of tone, frequent use is made of such phrases as ideally proper, reasonable balancing, equal fairness, maximum public advantage, duly warranted, and so on. In all, the book is not long on empirical content; though a high general respect seems to be indicated for experiences, direct observations, and "facts." Even footnote references to sources are largely omitted: "My professional contact has been extensive enough to warrant my personal statements, without straining for technical support and niceties in every expression of fact or opinion."

The first half of the book deals with an already familiar history of rate-control troubles. Reproduction cost, holding companies, and the judiciary are the leading choices for trouble-makers. This section does not contain new material.

Seeking certainties, looking to fixed property values and investor returns, excluding judicial review, and modifying the corporate status of public utility firms, Dr. Bauer prescribes an earnings-control formula in the last half of the book. First a choice of an earnings-control unit: a local or regional company, though brief attention is given later to interstate railways. Then the prudent investment, involving a deduction apparently for what is known now as the "required" depreciation reserve, is placed on the accounting record. Next, the investor returns, controlled by the "actual cost" of capital but adjusted somehow to reflect declining borrowing costs since 1930, are fixed for outstanding security holders; even the common shares receive a fixed annual payment, and consequently are new types of shares. Earnings revisions are expected to occur at least once a year, and a "rate equalization reserve" is available to handle differences between planned and actual earnings. Meanwhile, in the present manner of regulation, operating costs are subject to scrutiny, new security issues are sold by competitive bidding, and depreciation accounting takes a full-reserve pattern.

An administrative procedure designed to simplify administrative work is the primary shape of the proposal. In a brief review the pattern cannot be analyzed in detail, but a few comments and questions can suggest some of the limitations. I can question how an accounting record, containing "asserted" values, will solve the critical and often subtle problems of earnings control. Surely the dimensions of the problems are reducible continually to simple fact forms. One can be puzzled to know, too, how old and new capital costs are handled together—or why Bauer does not hold to the past borrowing costs and thus have a consistency with prudent investment values? And while plant maintenance through reinvestment is a recognized function of depreciation accounting, the use of prudent investment values denies such maintenance with secular price increases. Then there is the curious identification of riskless common shares if dividends are prescribed in the Bauer fashion; and even if the dubious quality of "pure investment' '

is accepted, the higher return rate for common stocks does not seem to follow. Larger questions concern the effects—intended but not explained by Dr. Bauer—on investment flows, spatial extensions, and innovations. His plan seems to be workable if he does not require "precise and systematic" economic effects. What are the significant expectations of its use and how is it a superior choice over other workable forms?

Turning briefly to pricing matters, the book states that the ideal rate is as "low as possible, consistent with cost, under efficient and economical management." Such statements do not make informative reading for economists. A logically constructed meaning for discriminatory pricing, such as economists have, is not evident in the chapter. Yet Bauer recognizes an understandable discrimination in blocked "demand" charges, and rejects the value-of-service rule for the same reason. In general, however, he accepts the industry tradition of "promotion" rates.

This book contains more than an interesting proposal. Apart from extensive repetition of ideas and phrases, apart from questions about conditions and reasoning, the book has the important quality of a positive effort toward a reorganization of the earnings-control pattern. And it appears at a time when the Hope decision affords opportunities for experimentation and when, in retrospect, the history of commission control shows strongly the need for new ventures.

EMERY TROXEL

Wayne University

Trade and Agriculture: A Study of Inconsistent Policies. D. Gale Johnson. New York: John Wiley and Sons, Incorporated, 1950. Pp. 198. $2.50.

The focus of attention in this book is broad and comprehensive. It deals with conflicts between trade policies and agricultural policies over a wide range of operating programs or proposals. It does not deal with the specific descriptive account of the commodities and operating procedures where the conflict comes into full view. That the coverage is broad is shown by the range from the discussion of agricultural programs, production controls, storage programs, and the like through export and import controls to discussion of international financial institutions and Benjamin Graham's Commodity Currency. Yet these different subjects are tied together into a logical and integrated discussion.

The first five chapters concentrate on pointing up the nature of the conflict between high level agricultural price-support programs and the efforts to reduce trade barriers and to stimulate a freer flow of resources across national boundaries. Chapter six is in the nature of a summary and argument for the need of reformulating agricultural policies. The last five chapters discuss proposals, including Professor Johnson's own recommendations, for possible reformulations of agricultural policy and needed developments in international trade and financial policy.

Since the book was completed in January 1950, it does not include any discussion of the impact of partial mobilization upon the nature of trading relationships. While state trading is mentioned briefly it is argued that it is a second choice for other countries used only if free international trading is not permitted to operate. Yet for some nations state trading monopolies may be an incidental part of national domestic policy programs controlling most aspects of resource allocation and production. In this sense at least, the book follows the traditional economic and trade arguments, namely, that if we can free the international economy of restrictive measures, nations will find it to their interest to follow policies contributing to international welfare. However, Professor Johnson does point out the necessity for developing sound programs for counter-cyclical action if the classical adjustments are to be given an opportunity to function.

Most of the proposals for reformulating agricultural policies are along lines previously suggested by Johnson, Schultz and others. They involve moving away from price-support programs into income-support programs, including positive measures directly attacking problems of agricultural poverty.

The book is an excellent integration and restatement of material largely available in scattered sources. Professor Johnson has done a real service in bringing these ideas together in one short book. In addition, the review and appraisal of these different ideas from one point of view is a positive contribu-

tion and will help agricultural economists quickly pick up the essential features of recent international trade and finance proposals.

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Studies in Income and Wealth, Volume 12. *Conference on Income and Wealth.* By National Bureau of Economic Research, New York, 1950. pp. v.i.x., 585.

In this volume a long idle field has been recultivated. The early economists concerned themselves with wealth, but of late years attention has primarily been directed toward income. Part of this has been due to the greater ease of income-estimation. Important statistical data and estimates have been compiled. All economists, for example, are well aware of the income estimates of the Bureau of Foreign and Domestic Commerce. The January 1948 Conference on Research in Income and Wealth was the first of a long series to be devoted entirely to wealth. This volume includes the papers presented and the comments of the participants.

Part I contains three papers concerned with the problems in the measurement of wealth written by R. W. Goldsmith, A. G. Hart and M. A. Copeland. There are more or less voluminous comments on the papers by twelve authorities. All this illustrates the complexity of the problems and the need to clarify and crystallize concepts. It is commented in the introductory statement that this also was true of the first of the conferences which dealt with income. In the case of income a common language did emerge and a set of social accounting conventions evolved. A similar development is to be anticipated for wealth. The issues are well brought out in the papers and their accompanying discussions.

Part II includes attempts at the estimation of wealth for certain sectors of the economy by individuals or a group of collaborators. The areas covered are agriculture; land, especially non-farm; subsoil wealth; manufacturing enterprises; public utilities; non-farm business inventories; consumers' tangible assets; government and foreign investment. The great difficulty of making sensible estimates, both because of the lack of data and lack of agreement on concepts stands out clearly in all the papers. The first three papers in this section are likely to be of the greatest interest to the readers of this *Journal*. The agricultural estimates are those of the Bureau of Agricultural Economics prepared by Roy J. Burroughs. These are well known and the present paper largely contributes to an understanding of how the estimates are made. In the second paper on land, estimates are of use on an acre basis in broad classifications. There is also included an approximation provided by the Forest Service of the value of forest land. The discussion of subsoil wealth in the third paper brings in relief some of the major problems in wealth estimation. What interest rate shall be used for discounting? What of the unknown resources and those of present low quality because of our knowledge of extraction methods? Are profits the criterion for social accounting or are larger social considerations involved? The problems of wealth estimation are obviously more difficult than those of income estimation. One is a record over a period of time, the other a projection into the future.

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Rural Social Systems. By Charles P. Loomis and J. Allan Beegle. New York: Prentice-Hall, Incorporated, 1950. pp. 873. $6.75.

When social scientists find themselves on the firing line dealing directly with local problems and action programs they usually either have or soon acquire considerable respect for the other social sciences. Economists, for example, seldom find that they can adequately analyze local situations entirely in economic terms. To get at the roots of a problem they must often be political economists and deal with political and social as well as with economic issues.

This book does not deal with political economy as such. But it does focus attention on various types of social systems and on many of the social factors that help to make these systems operate. In this sense the book has value to economists because it helps to provide the background that economists must have or feel if they are to function as political economists.

The authors define social systems as "organizations composed of persons who interact more with members than with nonmembers when operating to attain the systems' objectives." This definition covers a wide range of systems ranging from the family to various agencies of the state. Each of the seven sections of the book that follow the introduction deals with a particular type of rural social system. This classification divides as follows: (1) family and informal groups, (2) locality groups, (3) social strata, (4) religious groups, (5) educational groups, (6) political and occupational groups, and (7) rural service agencies.

Throughout their discussion of the nature and importance of these systems the authors employ the familistic Gemeinschaft and contractual Gesellschaft dichotomy. It is their thesis that rural people are more and more affected by Gesellschaft relationships and that the impact of urbanization has even brought some changes in the basic nature of the farm family. Considerable attention is given to the relationship between the Gemeinschaft and Gesellschaft arrangements found in each type of social system; and while the authors recognize the importance of contractual Gesellschaft in the modern age, they very clearly show that the success or failure of many rural programs depends upon the recognition of familistic Gemeinschaft cultures and the adjustment of program plans better to fit in with these situations.

All things considered, this book has much to be said in its favor. It is a fat volume well primed with facts and figures, as its 873 pages, 208 figures, 82 tables, numerous diagrams and 1,344 footnotes suggest. The centering of attention on rural social systems and the constant weaving in of the Gemeinschaft-Gesellschaft concept makes this a worthy contribution to rural sociological literature.

The book, however, has some defects. Despite the use of many colorful examples, apparently it is designed for use by advanced students. Its appeal for the average student is spoiled by an almost tedious recitation of facts concerning various social systems. Agricultural economists will dispute the accuracy of some statements such as the following (p. 319): "Most economists believe that agricultural incomes will decrease and that the prewar trends [toward decreasing equity of the operators in the land that they till] will continue. More and more land passes yearly into the hands of large investment companies and other agencies which rent it to tenant farmers." This statement may have been true in 1935 but it certainly is not descriptive of the conditions of the last decade. But even with these defects, agricultural economists—and land economists in particular—will find several chapters very much worth reading. Among the more interesting of these, this reviewer would list those on Settlement Patterns, Forms of Tenancy, Rural Government, and Farmers' Movements.

RALEIGH BARLOWE

Bureau of Agricultural Economics, and Michigan State College

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